# The Mining Journal

## RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1162—Vol. XXVII.] LONDON, SATURDAY, NOVEMBER 28, 1857. {Stamped ....Sixpence. Unstamped..Fivepence.



MR. JAMES CROFTS, MINING AND SHAREBROKER, No. 1, FINCH LANE, LONDON (established 14 years), TRANSACTS every kind of BUSINESS in MINING SHARES, but, not being a DEALER, BUYS and SELLS only on orders confided to him.

Mr. CROFTS not being in the habit of offering shares at fixed prices, cannot tempt the public by low quotations; and to recommend particular mines at a period of almost unexampled depression is difficult. The public are advised to watch the market, and to buy when they think the lowest point has been reached, or sell when their convenience or judgment dictates. In the midst of events tending to scatter capital, cripple trade, and check enterprise, the wisest will look forward and see that all depression has its limits, and the more severe the sooner will business be placed on a sounder basis. Tin mines appear to be more affected by the actual state of things than copper or lead, but improvements in any invariably brings buyers or sellers, and from this source at present the chief business of the market consists.

CHEAP SHARES.

| | | |
|---|---|---|
| Sortridge Consols, £1¼, 2. | Lady Bertha, 32s. 6d. | Vale of Towy, 15s. |
| Wheal Edward, £7½. | East Russell, £2¾, ¼. | St. Day United, 20s. |

MR. JAMES LANE, No. 29, THREADNEEDLE STREET, MINING SHARE DEALER.

JAMES B. BRENCHLEY, DEALER IN MINING, RAILWAY SHARES, &c. 11, ROYAL EXCHANGE, LONDON.

PETER WATSON (16 years' experience), MINING BROKER, STOCK and SHARE DEALER, will EXECUTE all ORDERS entrusted to his care with punctuality. Commission, 2½ per cent. on all transactions. Bankers: Union Bank of London. 57, Threadneedle-street, London, E.C.

MINE SHARES FOR SALE.—

| | | |
|---|---|---|
| 10 Alf. Con., £14¼. | 50 Kelly Bray, £1¼. | 1 Wheal Buller, £280. |
| 2 Botallack, £180. | 100 Lady Bertha, 32s. 9d. | 20 Wheal Charlotte, £4. |
| 50 Bryntail, 10s. | 50 North Levant, £3½. | 5 Wh. Kitty (Lel.), £16. |
| 40 Balnoon, 30s. | 50 Pendeen, £2¼. | 2 Wheal Margaret, £50. |
| 100 Bedford Consols, 15s. | 10 Par Consols, £19¾. | 10 Wheal Wrey, £5¼. |
| 40 Buller and Bertha, 10s. | 5 Providence, £75. | 100 West Par, 11s. |
| 15 Carnyorth, £5¼. | 100 Rosewarne Cons., £1. | 10 Wheal Grenville, £1¼. |
| 10 Ding Dong, £10. | 50 Sortridge Consols, 36s. | 50 West Grenville, 4s. |
| 10 E. Wh. Margaret, £2¼. | 50 South Caddra, 17s. 6d. | 20 Wheal Ludcott, 25s. |
| 50 E. Wh. Russell, 45s. 3d. | 50 St. Austell Cons., 35s. | 10 Wheal Margery, £6. |
| 100 Great Wh. Vor, £2¼. | 50 Swanpool, £3¾. | 200 Wheal Tallack, 6s. |
| 10 Great Alfred, £4¾. | 10 Trelyon, £10. | 50 Wheal Zion, 17s. |
| 200 Great Hewas, 16s. | 2 Wheal Basset, £148. | |

Mr. LELEAN will DEAL in any number of Lady Bertha, at 1s. price; and Alfred Consols, at ¼ price, for cash. MR. LELEAN, Mine Share Dealer. 4, Cushion-court, Old Broad-street, E.C.

TO CAPITALISTS.—RELIABLE INFORMATION may be obtained on application to the undersigned, in respect of MISCELLANEOUS SECURITIES generally. BANKS, INSURANCE SHARES, LAND COMPANIES, MINES (British and Foreign), RAILWAYS, FOREIGN STOCKS, and the PUBLIC FUNDS BOUGHT and SOLD at the closest market prices, and at moderate commissions. References given and required. JOHN BATTERS, Stock and Sharebroker, 26, Throgmorton-street, London, E.C.

MR. JOSIAH HUGO HITCHINS (Consulting Mining Engineer to the Devon Great Consols) informs his friends and capitalists generally that his PRESENT ARRANGEMENTS will enable him to AFFORD GREATER FACILITY and ADVANTAGE of CONSULTATION on the eligibility and value of MINING INVESTMENTS.

Mr. J. H. HITCHINS will provide correct plans and sections for valuable reference; ensure inspections and ensure reports by the best informed, most experienced, and disinterested agents, and will always, when practicable, perform such responsible duties himself.

Mr. J. H. HITCHINS will visit the mines of Devon and Cornwall, the North of England, Ireland, and Wales, to collect the most trustworthy information and opinions on their general working, state, prospects, and value.

Mr. J. H. HITCHINS values his reputation as the projector, and having been for many years the chief superintendent of those wonderful mines, the Devon Great Consols, and others of great importance; and presumes that the valuable experience acquired and matured by him during his well-known successful development of them will guarantee the best advice to capitalists in their investments, both in dividend mines, and those capable of the greatest and earliest success.

Mr. J. H. HITCHINS will offer his best advice and assistance to the projectors of new undertakings of good promise and probable value, and to existing companies, in effecting the best improvements in the underground and surface departments, the machinery, means, appliances, and management generally, of their mines.

Mr. J. H. HITCHINS has no hesitation in saying that mines, judiciously selected, and effectively worked with sound practical judgment and economy, prove very profitable investments.—Tavistock, Nov. 26, 1857.

MR. F. E. BLYTH, MINING SHAREBROKER, No. 1, ST. MICHAEL'S ALLEY, CORNHILL, is commissioned to SELL SHARES in most of the DIVIDEND and PROGRESSIVE MINES. As Mr. BLYTH confines himself strictly to commission business, the utmost reliance can be placed that all business entrusted to him will meet with prompt attention and regularity.

TO MINING COMPANIES.—CAPT. JOSEPH RICHARDS OFFERS HIMSELF AS MANAGER AND PURSER OF MINES. Mines Dialled, and Plans and Sections furnished. The Dialling and Mapping of Mines regularly attended to. Mines inspected either in this country or abroad, on reasonable terms. Watervale, Bridestowe, Exeter, North Devon, Nov. 17, 1857.

MR. R. TREDINNICK, BROKER AND GENERAL DEALER, GRESHAM HOUSE, OLD BROAD STREET, LONDON.

MR. E. GOMPERS IS A BUYER OF—

| | | |
|---|---|---|
| 1 Margaret. | 20 Edward, £7. | 50 Gawton. |
| 100 Sortridge, £1¾. | 100 East Russell, 44s. | 50 Lady Bertha, 20s. 6d. |
| 50 Pendeen, £2¼. | 1 Rosewarne, £20. | 5 Great Alfred. |
| 20 East Rosewarne. | 20 Kelly Bray. | 30 Trewetha, 15s. |

AND A SELLER OF—

| | | |
|---|---|---|
| 60 Buller and Bertha. | 20 Buller and Basset. | 1 Mary Ann, £50. |
| 2 Buller, £200. | 2 Basset, £160. | 10 Alfred Consols, £15¾. |
| 30 East Gunnis Lake. | 1 Botallack. | 30 Wheal Zion. |

5, Crown-court, Threadneedle-street.

NOTICE OF REMOVAL. HENRY GOULD SHARP, MINE SHAREBROKER, begs to inform his friends and the public that he has REMOVED to 32, POULTRY, E.C., where he hopes, by strict attention to business and punctuality, to meet their usual support. SHARES FOR SALE, or any part, at nett prices:—

| | | |
|---|---|---|
| 60 Bull. & Bass. Un., 21s. 6d. | 2 East Basset, £92¼. | 20 Pendeen, 42s. 9d. |
| 10 Balnoon, 21s. | 5 Great Alfred, £5. | 50 Queen of Dart, 18s. |
| 20 Boiling Well, 31s. | 40 Great Hewas, 15s. 9d. | 1 Rosewarne Uni., £24½. |
| 1 Botallack, £197½. | 20 Great Wheal Vor, £2. | 50 South Condurrow, 4s. |
| 25 Bryntail, 14s. | 50 Gwydyr Park, 4s. 9d. | 20 Sortridge Cons., £1¾. |
| 10 Buller and Bertha, 7s. | 10 Holmbush, 35s. | 25 St. Day United, £1. |
| 1 Brynford Hall, £51¼. | 200 King of Dart, 10s. | 1 South Frances, £235. |
| 50 Carnewas, 12s. 6d. | 30 Kelly Bray, 34s. | 20 Tamar Consols, £1. |
| 20 Chancellorsville, 3s. 6d. | 5 Leisnt Consols, £1¾. | 100 West Grenville, 4s. 9d. |
| 100 Chollacott Con., 3s. 6d. | 35 Lady Bertha, 22s. 6d. | 1 Wheal Basset, £157½. |
| 2 Craddock Moor, £40. | 1 Mary Ann, £49¾. | 10 Wheal Edward, £7¼. |
| 5 East Margaret, £3¼. | 180 Molland, 1s. 9d. | 20 Wheal Harriett, 9s. |
| 20 E. Providence, 18s. 3d. | 50 North Tavy, 18s. 9d. | 1 Wheal Buller, £300. |
| 20 E. Rosewarne, 18s. 3d. | 200 Port Phillip, 2s. | 25 Wheal Grenville, 34s. |
| 70 E. Wh. Russell, 45s. 9d. | 20 Pedn-an-drea, 16s. | 1 Wh. Margaret, £49¾. |
| 1 East Alfred, £3¾. | 3 Par Consols, £30. | 5 Wh. Kitty (Lel.) £16¼. |

MR. GOULD SHARP will be happy to receive any buying or selling orders. Brokers, agents, dealers, and others, residing in the mining districts of Devon, Cornwall, and elsewhere, will find a ready market, on sending positive instructions to buy or sell, on commission only of 1¼ per cent.

MR. GOULD SHARP offers his services to parties having spare capital to invest. He receives early information relative to all improvements in the mines, &c., consequently can give good advice as to the safest investments.

SHARES WANTED.—1 South Caradon, £237.

Mining Offices, 32, Poultry, London, E.C.

Bankers: London and Westminster Bank, Lothbury.

MR. GEORGE BUDGE, of 4, BIRCHIN LANE, CORNHILL, LONDON, has SHARES FOR SALE at the following prices:—

| | | |
|---|---|---|
| 1 Devon Great Consols. | 50 Tamar Consols, 19s. | 10 Wheal Emma, £7¼. |
| 5 South Cars Brea, £4¼. | 20 Camborne Vean. | 25 Great Wheal Busy. |
| 5 Alfred Consols, £15¼. | 50 Pedn-an-drea, 19s. | 20 Hingston Down. |
| 5 North Frances, £9¾. | 20 Tehidy. | 3 Craddock Moor, £43. |
| 50 Wh. Harriett, 2s. 6d. | 100 East Russell, £2¼. | 100 Redmoor. |
| 25 Pendeen, £2¾. | 50 Sortridge Cons., £1¾. | 300 Molland. |
| 60 E. Rosewarne, 19s. 6d. | 100 East Alfred. | 2 Rosewarne. |
| 16 Catherine and Jane, 7s. | 100 West Grenville, 5s. | 50 Drake Walls, £1¾. |
| 5 Wheal Sidney, £5¾. | 5 East Margaret, £3¼. | 20 Herodsfoot, £5 15s. |
| 5 Wheal Margery, £6¼. | 20 North Buller, £4¼. | 10 Wheal Uny, £8¼. |
| 50 St. Day United, 19s. | 100 Gawton, 21s. | 2 Collacombe. |
| 20 East Tamar, 19s. | 50 Lady Bertha, 25s. | 50 Belling Well. |
| 1 Balnoon. | 100 West Par Consols. | 50 Great Wheal Alfred. |

GEORGE MOORE, DEALER IN MINING SHARES. 1, CROWN COURT, THREADNEEDLE STREET.

GEORGE MOORE will SELL the following SHARES, or any part, at quoted prices, FREE OF ANY COMMISSION:—

DIVIDEND.

| | | |
|---|---|---|
| 5 Alfred Consols, £14¼. | 5 Hingst. Down, 78s. 9d. | 25 Vale of Towy, 13s. 9d. |
| 5 Bedford United, £6¾. | 25 Sortridge Con., 33s. 9d. | 1 Wh. Margaret, £48¼. |
| 25 Drake Walls, 29s. 6d. | 50 Tamar Consols, 18s. 3d. | |

NON-DIVIDEND.

| | | |
|---|---|---|
| 20 E. Alfred Cons., £2¼. | 5 Great Alfred, £4¼. | 20 Wh. Harriett, 9s. 6d., call paid. |
| 20 E. Rosewarne, 17s. 6d. | 20 Kelly Bray, 33s. 6d. | |
| 10 East Russell, 45s. 9d. | 15 Pendeen Con., 46s. 3d. | 2 Wheal Uny, £8. |
| | 5 Wh. Edward, £7 2s. 6d. | |

In any business that GEORGE MOORE is favoured with, in which he is the buyer, he will give CASH ON RECEIPT OF TRANSFER.

MESSRS. J. J. REYNOLDS AND SON, No. 1, ROYAL EXCHANGE BUILDINGS, LONDON, E.C., ENGLISH AND FOREIGN STOCK, RAILWAY, AND MINING SHAREBROKERS, beg to inform their friends and the public that the present time is a FAVOURABLE OPPORTUNITY for INVESTMENT in many undertakings of a substantial character, paying dividends worthy the attention of the capitalist.

Every information can be obtained at their offices, which their practical experience enables them to give, not only of mines and other properties of established value, but of those that are not.

MESSRS. POWELL AND COOKE, 8, HERCULES CHAMBERS, OLD BROAD STREET, LONDON.

Although Messrs. POWELL and COOKE do not attach prices to shares, they feel confident of being enabled to do business on equal, if not on more advantageous, terms than by adopting the system alluded to; and are of opinion that the shares of the following mines are well worth purchasing at the present market value.

DIVIDEND-PAYING MINES.

| | | |
|---|---|---|
| Alfred Consols. | Sortridge Consols. | St. Ives Consols. |
| Drake Walls. | South Frances. | Tincroft. |
| Great South Tolgus. | St. Day United. | Vale of Towy. |
| Hingston Down Consols. | South Caradon. | Wheal Mary Ann. |

PROGRESSIVE MINES.

| | | |
|---|---|---|
| Calstock Consols. | East Basset. | Great Wheal Alfred. |
| Camborne Vean. | East Buller. | Kelly Bray. |
| Catherine and Jane Cons. | East Trefusis. | Lady Bertha. |
| Degon and Cornwall Unit. | Great Hewas. | Wheal Edward. |

Messrs. POWELL and COOKE have business in most of the above mines, as buyers and sellers.

JAMES HERRON has FOR SALE the following SHARES, at the prices quoted, and FREE OF COMMISSION:—

| | | |
|---|---|---|
| 10 Bryntail, 8s. 9d. | 20 Great Hewas, 17s. 9d. | 1 Rosewarne, £23¾. |
| 10 Boiling Well, 29s. 6d. | 480 Gwydyr, 9d., subject to payment of 1s. 3d. per share calls. | 10 St. John del Rey. |
| 25 Balnoon Cons., 7s. 9d. | | 20 South Bog (Limited), Shropshire, £2¼. |
| 20 Cathe. and Jane, 7s. 6d. | 5 Herodsfoot. | 1 South Caradon, £335. |
| 1 Cefn Brwyno, £42. | 5 Hingston Down. | 10 St. Aub. & Grylls, £24¾. |
| 20 Chancellorsville, 3s. 9d. | 20 Holmbush, 34s. 6d. | 20 Sou. Condurrow, 3s. 6d. |
| 30 College Mines, 4s. 3d. | 20 Kelly Bray, 33s. 6d. | 20 Tamar Consols, 18s. 9d. |
| 15 Drake Walls, 29s. 9d. | 20 Lewis, 38s. 9d. | 10 Trewetha, 16s. 9d. |
| 20 Dyffryn Castell. | 20 Lady Bertha, 31s. 9d. | 1 Trelawny, £24¼. |
| 5 East Buller, £3 8s. 9d. | 20 North Trelawny. | 10 Wheal Wrey, £5 10s. |
| 20 East Tamar, 18s. 9d. | 20 North Tavy, 24s. 6d. | 2 Wh. Margaret, £48¼. |
| 20 East Providence. | 4 N. Basset, £12 18s. 6d. | 1 Wheal Mary Ann, £51. |
| 5 E. Trefusis, £4 16s. 9d. | 10 North Downs, 37s. 6d., call included. | 10 Wheal Edward, £7¾. |
| 5 East Wh. Rose, £5¼. | | 5 West Basset, £24. |
| 4 Forest. | | 50 West Par Consols. |
| 20 Gawton Unit., 32s. 9d. | 20 Pem. & E. Crin., 12s. 9d. | 10 Wheal Hender, 18s. 9d. |
| 5 Gt. Alfred, £4 18s. 9d. | 20 Pedn-an-drea, 16s. 9d. | |
| 20 Grenville, 34s. 9d. | 10 Pendeen Consols, £2¾. | |

The disturbed state of commerce renders it probable that the smelters cannot at present afford to give a better price for tin ore than they are now doing. At the same time, the fact is unquestionable, that, upon the average of the last 20 years, mining for tin has not been a source of profit on the capital embarked; and a rather prominent reason has been assigned, that the machinery and labour required to make the ore marketable is of so tedious and expensive a character, as to preclude the possibility of any reasonable amount of profit. This, it will be conceded, is not a valid objection, unless it be shown that tin can be produced elsewhere at a cheaper rate than in Cornwall and Devon; otherwise the sooner capital be diverted into more profitable channels the better. Therefore, there must be other causes for such an unfavourable result; and one is, that there are large quantities of tin ore brought to market from mines so deep and expensive to work, that the amount realised is not equal to the cost of production. This acts prejudicially upon mines of a different character, preventing those profits being made which would tend to give great encouragement to the development of setts at present unnoticed. It may be asked, why these mines are worked? It cannot be for the sake of giving employment to the labouring population, as they, fortunately, can be employed in mines of moderate depth and remunerative to all concerned. It, therefore, appears that the following are the only parties who derive benefit:—viz., the smelter, merchant, banker, and lord of the soil. These facts can hardly be controverted; it, therefore, behoves mining adventurers to withhold support and countenance from such, to them, unprofitable adventures. To enumerate the names of such mines would appear invidious, but the frequent heavy calls necessary to provide funds for debts already incurred and future workings will tell its own tale.

Some might suppose that these suggestions are made with the view of deterring capitalists from investing in the tin mines of this country, which is not the case, as Mr. HERRON is satisfied that the employment of capital in carefully selected tin mines is one of the best speculations of the day, the probability being that the requirements for tin metal for the next seven years will be more than equal to the supply. Another favourable feature in looking forward for better times is the almost certain formation, when money becomes easier, of many additional smelting companies under the Limited Liability Act, the capital required to carry on operations with success being very much less than is generally supposed. This will place the adventurer beyond the caprice of the smelters, as they will not dare to drop the price of tin 10l. per ton, as they did in June last, merely for the advancement of their own personal interests, at the expense of the British miner. This act of injustice will not readily be forgotten by those interested in the tin mines of Devon and Cornwall.

2, Adam's-court, Old Broad-street, London, Nov. 27, 1857.

MESSRS. VIVIAN AND REYNOLDS, MINE AGENTS, 68, OLD BROAD STREET, LONDON, E.C.

Messrs. VIVIAN and REYNOLDS are enabled, through the long experience of Mr. W. C. Vivian as an underground agent and manager of mines in Cornwall, and in various foreign countries, to afford information on most important mining districts; and to inspect and report on mines. They are also enabled, by the several years' acquaintance of Mr. J. J. Reynolds, jun., with the transaction of the London share market, to obtain every advantage for those who may want either to buy or sell mining or any other description of stock.

Messrs. VIVIAN and REYNOLDS have daily information from the principal seats of mining, which is at the service of those who may honour them with their confidence.

The value of mining stock generally is advancing, owing to the sounder business principles which are being introduced into this great branch of industry, and to the brilliant prospects which the present high price of metals give to mining enterprise.

Messrs. VIVIAN and REYNOLDS are of opinion that there never was a period when mining stock offered to enterprise so much safety, combined with such good chances of rapidly increasing value; and, from information recently received, they would direct the attention of capitalists to the following mines, as being sound undertakings, and their market value not in proportion to their prospects:—

| | | |
|---|---|---|
| North Roskear. | Camborne Vean. | New Wheal Vor. |
| North Frances. | Stray Park. | West Grenville. |
| North Wheal Crofty. | West Stray Park. | South Condurrow. |
| | East Alfred. | |

MR. R. LINTHORNE, ENGLISH AND FOREIGN MINING AGENT, 3, ADAM'S COURT, OLD BROAD STREET, LONDON.

BUSINESS TRANSACTED in all ENGLISH and FOREIGN MINES, and other SECURITIES, on the usual terms of commission. Information afforded in respect to Dividend-paying and Progressive Mines.

JAMES H. COCK, MINE SHAREBROKER, GENERAL COMMISSION AGENT, AND ACCOUNTANT, REDRUTH, CORNWALL.

Orders for the PURCHASE and SALE of MINE SHARES, MINING MATERIALS, &c., promptly attended to.

MANGANESE.—SOCIÉTÉ GÉNÉRALE DE MANGANÈSE, EHRENBREITSTEIN.

AGENT—H. SCHOLEFIELD, 6, Sandhill, Newcastle-on-Tyne.

MESSRS. A. J. HUTCHINGS AND CO.'S PATENT IMPROVED WIRE ROPE. SOLE MAKERS TO THE LORDS OF THE ADMIRALTY, THE FRENCH AND TURKISH GOVERNMENTS, And the principal Colliery Proprietors throughout the kingdom. MANUFACTORY, MILL WALL, POPLAR, LONDON.

ROUND and FLAT ROPES of every description, suitable for mining operations or other purposes, GALVANISED or UNGALVANISED, MANUFACTURED upon the newest and most improved machinery, ensuring greater pliability, durability, and strength; and is admitted by the principal coal proprietors to be far superior to any other kind of wire rope. The superiority of these ropes over hempen ones, in point of strength, lightness, durability, and cost, is admitted by all who have tried them.

GUIDE ROPES, SIGNAL CORD, LIGHTNING CONDUCTORS, &c.

SIXTY-FIVE (4000ths) SHARES IN EAST WHEAL RUSSELL COPPER MINE, FOR ABSOLUTE SALE. FORFEITED FOR NON-PAYMENT OF CALLS.

MR. T. P. THOMAS has been favoured with instructions by the Committee of Management, pursuant to a resolution for that purpose passed at the last General Meeting of the shareholders, to SELL, BY PUBLIC AUCTION, at his offices, No. 2, Crown-court, Threadneedle-street, London, on Thursday, the 10th day of December next, at One o'clock precisely, SIXTY-FIVE (4000ths) PARTS, or SHARES, in EAST WHEAL RUSSELL, Tavistock, Devon, forfeited for non-payment of calls.

Particulars and conditions may be had of Mr. J. H. MURCHISON, the secretary, 117, Bishopsgate-street; and of the auctioneer, 2, Crown-court, Threadneedle-street, London.

Mr. T. P. THOMAS will also, at the same time, SUBMIT TO PUBLIC COMPETITION a LOT of valuable DIVIDEND and OTHER MINE SHARES, particulars of which will appear in the next Journal. Parties wishing shares to be included in the above sale, will please favour the auctioneer with instructions on or previous to the 4th inst., as he cannot insert any shares in his catalogue without their being previously advertised.

MR. JOHN R. PIKE, MINING AND SHAREBROKER, 3, PINNER'S COURT, OLD BROAD STREET, LONDON.

WILLIAM MARLBOROUGH, MINING AGENT, (For many years with Mr. T. P. Thomas), 57, OLD BROAD STREET, LONDON.

MR. WILLIAM MOORE, STOCK AND SHAREDEALER, 11, HERCULES CHAMBERS, OLD BROAD STREET. N.B. Business transacted in every description of stock and shares.

MINING OFFICES.—Mr. T. CARTHEW, ST. CLARE STREET, PENZANCE.

MR. W. H. BRUMBY, STOCK AND SHAREBROKER, 1, QUIET STREET, BATH, is in a position to give the BEST ADVICE in the SELECTION and PURCHASE of DIVIDEND and PROGRESSIVE MINES.

CAPT. THOMAS DUNN, of TAVISTOCK, undertakes to INSPECT, REPORT, and SURVEY any MINES or MINERAL PROPERTY in ENGLAND, IRELAND, SCOTLAND, or WALES. No objection to take the management of any mine or mines in the neighbourhood of Tavistock.

CAPTAIN JAMES WHITE, of HELSTON, UNDERTAKES to INSPECT and FURNISH BONA FIDE REPORTS on MINES and MINERAL PROPERTY in CORNWALL.

CAPT. JAMES HOSKING, MINE AGENT AND MINERAL SURVEYOR, MACHYNLLETH, NORTH WALES.

Mines inspected and reported on at the shortest notice, and on reasonable terms. Capt. HOSKING has been engaged in inspecting, reporting, mapping, &c., for the last 23 years.

MR. FRANCIS R. BILL, CONTRACTOR, AND GENERAL ACCOUNTANT AND AUDITOR. 32, BUCKLERSBURY, LONDON, E.C.

CONTRACTOR for the SUPPLY of RAILWAY MATERIALS of every description. Estimates prepared. Agencies undertaken. ACCOUNTANTSHIP BUSINESS of all kinds performed under contract, whereby a considerable saving on the usual cost may be effected.

JAS. T. TREMAYNE, MINING AGENT AND ACCOUNTANT, 3, CROWN COURT, THREADNEEDLE STREET, LONDON; AND AT TRURO, CORNWALL.

JAS. T. TREMAYNE is prepared to audit any description of mining or other accounts. Any letters addressed to Truro, Cornwall, during the present and ensuing month, will receive due attention.

JOHN GLEDHILL AND CO., MINE AGENTS, SHARE BROKERS, AND GENERAL DEALERS. MINING RECORDS OFFICE, 12, SOUTH PARADE, LEEDS.

Mines well selected are the best investments, paying from 15 to 30 per cent. on the outlay. They have to OFFER SHARES in most of the DIVIDEND and PROGRESSIVE MINES, and are ready to give every information relative to all mining matters.—Dated Nov. 27, 1857.

SUCCESSFUL INVESTMENT IN BRITISH MINES depends on a minute and comprehensive knowledge of the subject. Capitalists unacquainted with the nature of mining operations and the market should act under the direction of an EXPERIENCED AGENT; and as such, the undersigned OFFERS HIS SERVICES to the public in effecting PURCHASES and SALES of MINING, RAILWAY, BANKING, CANAL, INSURANCE, and any other description of stock, &c.

No description of property affords such large profits, with security from undue liability and simplicity in transacting business, as British mines, when they are judiciously selected and honestly conducted. The large profits made, the export of mining articles, the combinations constantly forming for the development of mineral wealth, all show the legitimacy and the growing importance of British mining.

F. W. STOCKWELL is instructed to TRANSACT BUSINESS in the leading DIVIDEND MINES, which are yielding on the average 25 per cent. per annum on present price. He has orders also in well-established British mines, where a rise of many hundred per cent. may be expected. F. W. STOCKWELL. 75, Old Broad-street, E. C.

MR. H. HUXHAM, COLLIERY VIEWER AND MINING ENGINEER, having resigned the management of Cwmsaerbren Colliery, is NOW OPEN to PROFESSIONAL ENGAGEMENTS; and begs to assure those who may favour him with their commands that all business entrusted to his charge shall receive prompt attention, and be executed with the utmost fidelity and care. References and testimonials of the highest character can be produced. Terms moderate.

AN IN-DOOR ARTICLED PUPIL WANTED. He would have first-rate opportunities of attaining a thorough knowledge of practical and theoretical mining engineering, in all its branches.—Pont-y-pridd.

MR. PALMER, NORTH DERBYSHIRE MINERAL RECORD OFFICE, MARKET HALL BUILDINGS, CHESTERFIELD, DEALER IN ALL DESCRIPTIONS OF MINING SHARES AND STOCKS. Several Derbyshire mines now offer great advantages to investors.

WHEAL EDWARD.—CAPT. JOS. HODGE, who superintended the first mining operations of Wheal Edward, Calstock, Cornwall, and has had frequent opportunities to observe the state of the proceedings of the workings since his retirement from holding office in the said mine, has been recently called on by various friends to inspect the mine. He inspected it on Friday, the 20th inst., and purposes to make another inspection to-morrow. Having obtained his friends' permission, he is enabled to FURNISH HIS REPORT to any SHAREHOLDERS, or OTHERS who are interested in having a RELIABLE REPORT of the present position and future prospects of the mine; therefore he will furnish such report to any applicant on receipt of a remittance of £1 1s., and will as well answer any interrogatories that may be made on the report, as may be in his power. Gunnis Lake, Tavistock, Nov. 26, 1857.

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QUARTERLY REVIEW OF BRITISH MINING.—MR. MURCHISON'S REVIEW FOR PAST QUARTER is NOW READY, price 6d., at 117, Bishopsgate-street Within, London.

## THE PATENT LAW, AS RECENTLY AMENDED.—No. II.

BY F. W. CAMPIN.

It would be well if, before adopting a title for Letters Patent, enquiry be made as to whether the object intended to be embraced by the title, and secured by the patent, is either partially or wholly within the scope of the patent laws; for it must be borne in mind that the new Patent Act does not abrogate the old law, but merely makes new regulations as to the obtaining of patents, &c.

Now, whatever is good subject matter for a patent must come within the law of patents, as settled by the well-known statute of Monopolies (21 Jac. I. cap. 3), which although it abolished monopolies generally, yet enacted that grants might continue for the future to be lawfully made for "the term of fourteen years or under of the sole working or making any manner of new manufactures within this realm to the true and first inventor and inventors of such manufactures, which others at the time of making such letters patent and grants shall not use, so that they be not contrary to the law nor mischievous to the state, by raising the price of commodities at home, or hurt of trade, or generally inconvenient; the said fourteen years to be accomplished from the date of the first letters patent, or grants, of such privilege hereafter to be made." And this leads us to consider the meaning of the term

"NEW MANUFACTURE."—The words above quoted, as will be seen, require that letters patent, in order to be excepted from legal forfeiture as monopolies, must be for some manner of new manufacture. Now, an old legal text book of authority (Sheppard's "Abridgement") states that a new trade or device, or any new engine tending to the furtherance of it, is sufficient to sustain the grant of a patent for the same; and this is, perhaps, a good though quaint exposition of what is stated in the statute of James I., regarding what is there termed "new manufactures," bearing in mind, however, that the law interprets the term new to mean not only what is new *in toto*, but also what is new in any important particular.

The word "manufacture," as a substantive, has a double signification; meaning either the art or practice of making or constructing anything, or the thing itself as made by art; and, as Mr. Hindmarsh, in his "Treatise on the Law of Patents," remarks, "Notwithstanding the double signification of the word, the statute, until recent times, seems almost always to have been construed as if the word bore the latter only of the two significations." But whatever oversight may have been formerly committed as regards the meaning of this word, a just and comprehensive range has been given to it by the dicta of the learned judges, and it is now considered that the term, as employed in the statute, declares the law to so stand as to include any new invention or discovery which shall effect a practical improvement in the arts and manufactures. Even the omission of part of an old combination of known elements or agent, or combined method or process, if such an omission produces an improvement, will be sufficient to support a patent. (Vide Minter v. Mower, and Russell v. Cowley.) But no discovery, however great its ultimate value may be to science and the arts, which merely elucidates some abstract or general principle, or natural truth, can be the subject of a valid patent. Thus Mr. Justice Buller, in the case of Boulton and Watt v. Bull, said a patent cannot be maintained for an idea or principle alone. The very statement of what a principle is proves it cannot be a ground for the grant of a patent, for it is the elements and rudiments of the arts and sciences. A patent must be for a new production from those elements, and not for the elements themselves." This dictum has always been concurred in by learned judges. It will be readily deduced from the dicta of the learned judges, keeping in mind that the law requires an invention, in order to support a patent, to be of some practical advantage to some manufacture; that there can be no valid patent for a bare and unembodied idea. But although the discovery of an abstract principle of science or law of nature will not support a patent, the application of such a principle, if it be practically applied, &c., or a new method or process, will fully sustain a patent. Thus in the notable case of Boulton and Watt v. Bull, Mr. Justice Heath stated that "there can be no new patent for a mere principle, but for a principle, so far embodied and connected with corporeal substances as to be in a condition to act and to produce an effect on any art trade, &c., a patent may be granted." In fact, a patent can only be sustained for something that shall fulfil the conditions upon which the patent right is granted, as set forth in the preamble of the letters patent under the great seal, by being found amongst the arts and inventions of practical application.

What is said with regard to a principle of science or natural truth not being a subject patentable, must not be taken to apply to the *principle of an invention*, which is altogether distinct; indeed, the latter may be regarded as signifying the general nature or character of the patented invention, and is the object secured to the patentee by the royal grant; if it were otherwise, a patent would be a poor protection indeed.

That the patent, provided it be properly specified, secures to the patentee exclusive property in the general nature of his invention, instead of confining him to the exact details of it, will be seen upon referring to the letters patent, wherein it is stated that "no person, other than the patentee, shall (with regard to the details of the invention) make any addition thereunto or subtraction from the same, whereby to pretend himself or themselves the inventor or inventors, the devisor or devisers thereof," thus clearly intimating that the substantial character of the invention is to be protected, however the details may be varied, and this is the construction of the patent in the courts of law.

Of course, the amount of protection a patentee will obtain must depend very much upon the final specification, which will be treated of in due course. In order to be patentable, however, the matter must not only be a manufacture, but a "new" manufacture—that is, it must have novelty.

NOVELTY is indeed a most essential requisite, without which the patent cannot stand for a moment; and what legally possesses this incident will be obvious from the following statement of what has been judicially declared to be without sufficient novelty for the purpose.

1. That is not new which is set forth and described (that is substantially) in some public record, prior to the date of the patent. (Vide Haddart v. Grimshaw, and Cornish v. Keene.)

2. That is not new which is substantially set forth and described in some work, written or printed, and published previous to the date of the patent. (Vide King v. Arkwright, and Stead v. Williams.)

This will hold good even if such a work were merely accessible to the public prior to the patent, without having been in general circulation; for instance, if the work were deposited in the British Museum. (Vide Baron Heurteloupe's case.) But want of novelty from this cause admits of a remedy under Lord Brougham's Act, provided the work be but little known, and the inventor can prove that he did not derive his invention from such work.

3. Neither will that be new which has been publicly used or worked before the date of the patent.

This term, "publicly used," requires some explanation, because it is necessary to be careful not to confound it with "generally used," as it is not necessary in order to destroy the novelty of the patented invention at common law that the invention should have been previously used by the public at large; it is sufficient to avoid a patent if only one person has used the invention in public; or, according to the dictum of Lord Chief Justice Tyndal:—"If the invention should have been practised openly, so that any other person might have the means of acquiring knowledge of it as well as the patentee, then the patent would be void." (Vide Cornish v. Keene.) But it will be seen that the use of an invention will not affect the novelty of a subsequent patent if it does not amount to a public use, even if several persons be concerned in such use. (Vide Lewis v. Marling, and Morgan v. Seaward.) And if more persons than one prove to have simultaneously invented a new manufacture, it does not destroy its novelty if up to the date of the patent it had not been publicly known or publicly used. (Forsyth v. Reviere, and Lewis v. Marling.)

4. The public sale, or public exposure for sale, previous to the date of the patent, even of *one article*, will destroy the novelty of an invention, and avoid a patent. (Vide Wood and Others v. Zimmer). But it seems that the secret sale of an article, privately made and then sent abroad, will not invalidate a patent. (Vide Morgan v. Seaward.) Novelty is, in fact, the most important attribute of a patented invention: without it the patent fails *in toto*, and so strict is the law on this point that it appears although numbers of persons give evidence in favour of the novelty of the patented invention, yet if this be rebutted by the direct and unshaken evidence of only one person who has seen it in public use, or openly used it himself, prior to the date of the patent, it will be sufficient to avoid a subsequent patent. And it is to be remarked that the prior unreserved use in public, or public sale, or exposure for sale, by the patentee himself is equally fatal as if done by other parties.

The evidence of want of novelty, in order to upset a patent, must, however, be direct and determinate; inferential evidence will not be sufficient to quash a patent. Thus an experimental use will not destroy the novelty of an invention, although the experiments may not have been conducted secretly. (Vide Galloway v. Bladen, and Cornish v. Keene.) It is necessary to keep in mind that all that is stated with regard to the novelty of an invention refers to the date which letters patent bear. The novelty of an invention is effectually destroyed if it be only published or in use just before the date of the patent. It must also be remembered, that if the subject matter of the patent wants novelty in any one material part, the patent fails altogether. (Hill v. Thompson, and Brunton v. Hawkes.) This defect, however, is one for which a remedy is provided by Lord Brougham's Act, under which the patentee may apply to the law officers to be allowed to amend the specification of his patent, which they have power to allow. And where an invention has been little used or known—that is, to use the words of the Act, "hath not been publicly and generally used before the date of the first letters patent for the same invention," Her Majesty in Council may confirm the letters patent under that Act.

Unfortunately, however, this power is very seldom exercised, the Privy Council being so niggardly as to let the poor patentee lose his patent rather than abandon their own crotchets.

The three kingdoms, England, &c., Scotland, and Ireland (and it is said the colonies also) form portions only of one entire realm, and, by consequense, what is done in one part of the realm affects all the other parts. (Brown v. Annandale, in the House of Lords.) Now, it will be seen, upon reference to the terms of the statute of Monopolies, that the patent can only be valid for some manner of manufacture which is new within the realm; therefore, what is done in Scotland and Ireland affects England, and *vice versa*. Patents under the new Act embrace all three kingdoms, and, therefore, this dictum is now, of course, indisputable. But the previous publication, use, or exercise of the invention in a foreign country will not avoid a patent, which, as above stated, is only required to be new within this realm. (See Edgeberry v. Stephens.) And in practice, patents are continually taken for inventions which are already known abroad.

The Patent Law Amendment Act, 1852, enacts that if a foreign patent has been formerly obtained and expired for the same invention, any patent granted for the United Kingdom after the expiration or cessation thereof, shall be of no validity.

With the view to test the novelty of the invention, the intending patentee should pay a visit to the Library of the Great Seal Patent Office, or to a free public library in his own locality, and consult the indexes and specifications published by the Commissioners of Patents.

*Patent Office, Strand.*

## PHOTOGRAPHS FROM MANUFACTURING DISTRICTS.—No. V.

EBENEZER ELLIOTT, AND THE FOREIGN IRON TRADE.—Everyone acquainted with the iron trade will admit how much we were indebted to Sweden for the iron used in manufacture up to the commencement of the present century—how British iron was undervalued for want of the cultivation of its manufacture: scarcely a nail or horseshoe but it must be made of foreign iron. So wide-spread was the impression, that a Master of Arts from one of our universities made me smile as he took from my hands a piece of bar-steel, with the expression, "Common Swedes, I suppose?" That piece of bar-steel I had just taken from the hands of Ebenezer Elliott, and was about testing it for the purpose of making tools. This general disposition to imagine that nothing would do for manufacturing purposes but foreign iron was entirely the cause of Ebenezer Elliott's progress from comparative poverty to comfortable circumstances—if not substantial wealth. It is generally known that Elliott was a lover of literature for many years. Many years he suffered the pains and penalties of a disappointed author, until suspicion seemed to attach itself to his discourse and his actions. The father of a very numerous brood of little Elliotts (dependent on him for support), who rolled about amongst the vagrant bars of iron and steel, and made a naturally light complexion sometimes dark enough for a Mulatto. The uncertainties of the manufacturing trade of Sheffield, the privilege of selecting every bar the cutler of limited means required, left Elliott in his retail trade but small profits, when he had deducted the losses of refuse and some bad debts, though in that line he could not make many: all these had a tendency to strengthen his mistrust of the circumstances of trade, and even of human nature, and lead him on to a careful management of the business I purpose to notice. From this time he turned his attention to matters poets have always been accused of neglecting, and cultivated an estate as well as the muses. On one occasion he became surety for some discontents during the Chartist movement; but, before their trial came on, they disappeared, and Elliott had to pay the amount of his bond.

The father of E. Elliott was in the employment of the Walker family, at Masbro', where he passed through several reverses, and died in poverty. Like his son, he was a man of strong feeling, and republican in his sentiments. That sceptical man, T. Paine, was also employed at the iron foundry, and doubtless had his pernicious influence in conversation as well as in his writings. However, E. Elliott grew up an inveterate hater of poor laws and corn laws—an opponent of landed interest, and labour's constant advocate, turning his bitter satire against every kind of assumption, and becoming a worshiper of the very emblems of toil. One day, during a steel transaction between him and me, he turned his observations on what he called "the kid-glove gentry," whom he said "were not ashamed to be seen with a book in their hands, but catch them carrying a leg of mutton, which was as necessary, and sometimes more useful." It would be foreign to the purpose of this Photograph to enter into the question of how far his poetry was esteemed by men of letters, or to quote what everybody have the opportunity of reading. But, in a brief notice of the man, I am tempted to repeat, from memory, a passage from a keen satire which he suppressed, and I only read through the permission of his son. The passage alluded to was a description of the place of punishment which his imagination peopled with political oppressors, and to anyone acquainted with the manufacture of steel his figures will be at once recognised; and though a very great number of incidents and quotations, similarly illustrated, could be given from personal recollections, the present one will suffice to develope his strong and terrific feelings:—

"Swift in the centre turned a wheel
By torrents urged of molten steel,
To which attached a hammer raved
Which rocked the floor of hell-fire paved.
While *hardened* hearts, which never melt,
And ne'er a touch of pity felt,
Received the oft-repeated stroke,
And long endured, but never broke.
Though stoutest devils tug'd and swore,
And turned the granite o'er and o'er,
Alas! t'would make ev'n Satan pant,
To soften human adamant."

Class with this the "History of a Stone of Taxed Flour," which he had printed on the fly-leaf of his invoices, and there is at once a picture of the strong-impassioned and unbending man of iron and steel.

It is necessary to observe that at the time when Elliott made large profits from the iron trade in Sheffield, the mode of transit from Hull was the canal, and the bars in large piles laid at the Sheffield wharf. The foreign ironmasters were always a class of superior men, and consequently preferred large engagements to small accounts. They placed confidence in the integrity of Ebenezer Elliott, and constituted him a sort of local agent, with power to dispose of their property in accordance with his judgment and experience. Their custom being bills of long dates, he had the interest of the money in addition to the profits of his sales. His transactions were conducted in a most singular manner. He sat in a gloomy, dirty, disorderly little office, using a broken chair tied together with ropes, which he denominated an emblem of the British constitution. There he wrote orders for the iron at the canal wharf, and consequently sold what he often never saw. It is well known that the foreign ironmasters in Hull have their marks, which denote the quality and price of the material. Each house having its own, and seldom having occasion to change them, there was but little danger of error or confusion. So many tons of such a mark was quite a sufficient description of the article and its owner. In that business Elliott had time to write poetry, talk politics, and gain his 20*l.* or 30*l.* in a day. He also took care of it, neither building churches nor endowing hospitals; neither heading subscription lists nor supporting educational establishments: he gave the poor his blessing and their rulers his scorn; and even sought a refuge from the sight of the sorrows of toil when 9000*l.* could be called his own. Elliott was a man of Sunday rambles: the world was his temple, and he acknowledged Nature as the image of his God. Rivelin, a little stream studded with grinding-wheels and iron forges, was his favourite resort; and on the rugged hills of Locksley, which overlook it, he had intended his country house to have been built. But his own words were, "He would have been too near the town of Sheffield, and lectures or political meetings would have been a tax upon him." It is true his money had been made in the town—he had professed his attachment to its interests, and to hide himself from it in the obscurity of the place where he ended his days could not be called anything less than a desertion of the standard he had raised himself. Elliott was well aware he had gained all he could; a change had taken place; railway communication with the port of Hull had been established; the trade of Sheffield had increased; furnaces for converting and melting steel had been erected in almost every street; foreign ironmasters paid more frequent visits to the town, and opened fresh accounts, which they managed for themselves. The mixture of scrap, old files, and British iron, reconverted after being used as springs and spindles, gave a new feature to the trade in which Elliott had made his profits; but, as he said, he intended to keep the money he had saved; he, consequently, retired from the business, leaving his son to attempt the continuance of a retail iron and steel trade, which the father had the most humble opinion of himself. The consequence was the son soon gave it up, and now there is no Elliott connected with their paternal trade in the smoky and industrious cutlery manufacturing town of Sheffield. The foreign iron business continues, as I have previously observed, and no objection can be urged against it but the cost of the material. There are several qualities, but the lowest is not less than 14*l.* per ton, previous to its being converted. A very superior quality will sell for about 30*l.* Very good British iron is now manufactured in Yorkshire and Derbyshire, and for the same purposes for which foreign iron was used a few years ago, answers in a most admirable manner; yet should the very laudable exertions of gentlemen whose discoveries are published in the *Mining Journal* succeed, English manufacturers will receive a great accession to their resources, and mining operations will be rewarded by a large increase of profit. There are political reasons why nations should trade with each other; but there is a danger and an inconvenience in the dependence being absolute: misunderstandings, tariffs, and wars may reduce us to poverty; but the means of trade within the compass of our own territory is a certain source of employment for the workmen and of wealth for the master.

Let not the friends of Ebenezer Elliott, who saw him in his best clothes only, imagine this Photograph harsh; I have said things as severe to him when alive, and think them in no way disrespectful now he is dead. Ebenezer Elliott was not the man for argument, and he cared little for logical deductions; the impulse of the moment, the flow of soul, the ebullition of feeling, always characterised him; destitute of pride and fearless of contradiction, no person needed to conceal their opinions in his company, and to any opposition his earnestness was always equal. I well remember going to his place of business at a time when the corn law repealers had received the severest check from the opposition of the British Parliament. Elliott had a petition for the repeal of the corn laws on an anvil in his steel warehouse, which he pressed me to sign, and I reasoned on the folly of any petition on the subject under such circumstances; but he ended the argument by passing his fingers through his hair until it stood out as if charged with electric fluid. He strode over lots of vagrant bars of steel to the end of the warehouse, and then returned to the anvil: pointing to the paper, and looking at me, he said, "This will soon be signed in blood, and fire, and smoke, and will roll over them (the opposition), and crush their black souls like crabs." Such was Ebenezer Elliott; but the results of his energy have doubtless been an universal benefit.—JOHN BENNETT.

# Original Correspondence.

## NOTES ON IRON-MAKING IN THE UNITED STATES.

SIR,—At the present moment, when attention is more than usually directed to the trade and resources of the United States, some observations on the iron trade and collieries of the States of Pennsylvania and Ohio, made during a tour last summer, may perhaps be interesting to those of your readers who have no opportunity of obtaining reliable information on a subject so important to British ironmasters, as thereby an idea may be formed of the future practicability of competing with American iron in the western states, where, through emigration, such an extensive market is now opened.

The anthracite coal field of Pennsylvania has been too often described and statistical tables printed, to require any particular observations; but the extent of the field, thickness of veins, and the quality of the anthracite, exceed anything I had conceived. This coal is used for all purposes for which coal or coke is required—as, for instance, steam-boats, locomotives, puddling and balling furnaces, melting cast-steel, as well as for blast furnaces. The quality of pig-iron made with anthracite is very good. Most of the furnaces, instead of running for quantity, are kept on No. 3 and mottled, the quality of the pig being of great importance, as large quantities of charcoal pig are in the market to compete with. Some of the furnaces have a 16-feet bosh, and produce 120 tons per week. I was informed by a furnace manager that, at the Thomas Ironworks, two furnaces were being built, 20 ft. bosh, and 60 ft. high, to be blown with 10 lbs. pressure. The proprietor expects to make 400 tons per week with each furnace. My informant was then about to take a journey of 300 miles, expressly to see these furnaces, which were stated to be nearly ready. All the anthracite furnaces I saw worked well, and used the waste gas from the tunnel head to generate steam, and to heat the blast; and no extra fuel was used for that purpose. The tops of the furnaces were not closed, the draft of a stack being sufficient to take the necessary supply of gas through the side flues.

I cannot omit this opportunity of expressing my surprise that most ironmasters in England still continue the old wasteful system of using coal under the boilers of their blast engines and hot-air stoves, and thereby throwing away thousands of pounds yearly; for even if the coal cost nothing, the labour of attending the fires, and wheeling coal to and ashes from the fires, is considerable, and might all be saved by firing with the waste gas. Those who have not tried it suppose that it injures the quality of the iron, and that it is irregular and not to be depended on. All these objections are proved to be ill-founded, both at the open-top furnaces in Germany and America, and at the closed-top furnaces at one works in Wales.

At the rolling mills on the east side of the Alleghany Mountains the puddling with anthracite is not so general as it was, and a very expensive bituminous coal is used instead; whereas for welding furnaces the anthracite is found more economical. This is easily accounted for, and is caused by the form of the furnace. At most works horizontal boilers are placed (resting on pillars) over the furnaces; and the steam is used at about 130 lbs. to the inch.

Passing over the Alleghany Mountains, we come to the bituminous coal field, extending over the western part of Pennsylvania, the greater part of Ohio, Indiana, &c. This yields bituminous coal of very superior quality, bed upon bed, of all thicknesses. Dig a hole where you may, one is sure to come upon coal, which is so horizontal that one scarcely can tell which way it dips; and from the nature of the country, it is worked very cheaply. The blast furnaces which I visited in this district were constructed mostly from the same pattern, whether coke, coal, or a mixture of fuel, was used; consequently, the generality were working badly, and the pig-iron produced was inferior, although the raw materials were good. Very badly made coke, ill-constructed furnaces for raw coal, and these driven above their capacities, appear to be the chief causes of want of success, and will account for the fact that so few furnaces are using mineral fuel, and that so many new ones are standing idle which, with proper management, would yield large profits.

To give any fixed data for calculation of cost would be impossible, as the price and quality of materials vary at every establishment; and there is such a wide margin for profit left, that little deference is paid to a good or bad locality. I visited one furnace, situated in a rich ore and coal district, at which the ore could be delivered at 8s. per ton; at another furnace, I found that the same quality of ore cost 16s. per ton, and red ore from Lake Superior (of which a quarter was used) cost 40s. This latter furnace was the best managed of any I saw, and made good No. 3 iron.

One feature new to me in this coal field is, that the limestone is found in veins, in the same stratification as the coal and ore, and is worked up with it for the use of furnaces, and for lime. Near where I was engaged in Ohio a farmer worked the three together: under a strong firestone roof he wrought (for sale) 14 inches of rich ore, in 3 feet of ground; then 2 feet of blue limestone, which he burnt for lime, and used some of the coal from a 6-inch vein, of which the said limestone formed the roof. Thus, in 6 feet of workable ground were 6 inches of coal, 2 feet of limestone, and 14 inches of ore. I merely give this as an instance that particularly attracted my attention, the working being on the side of a railway, over which I daily passed. In the same neighbourhood the farmers delivered large quantities of "patch" ore, at 7s. per ton, into barges on the Ohio Canal; it was conveyed to ironworks at such a distance that an additional 8s. per ton was paid for freight. The pig was then sent 100 miles further to the bar mill. By this it will be seen that much money is wasted in freight. The coal worked in the neighbourhood of the ore is very hard, and resembles the Yorkshire coal; it makes a white ash, and produces excellent coke. The colliers earn good wages at 2s. 6d. to 2s. 8d. per ton for cutting. The large coal is sent by canal to Cleveland, and sold at 14s. to 16s. per ton.

At Pittsburg, there are about 30 bar-iron mills, but no furnaces. The pig-iron used is chiefly from anthracite furnaces east of the Alleghany Mountains, and charcoal pig brought down the Allegany, and up the Ohio Rivers; it is sold at $28 to $35 per ton. A large quantity of charcoal blooms are also rolled into boiler plate and bars—the boiler plate is very superior: 3-ft. diameter boilers, cold riveted, made of ¼-inch plate, are allowed to work at a pressure of 130 lbs. to the square inch. Charcoal blooms, made in one process direct from the rich Lake Champlain ore, cost 13*l.* per ton; blooms from pig, 14*l.* 10s.; boiler plate, 24*l.*; and boilers, 38*l.* per ton. Large coal, 4s. 6d. to 6s., delivered at the mills: small binding coal is not thought worth using. Some of the mills are well and substantially built; others, the contrary. The puddling furnaces are charged much more heavily than in Wales, and yield better, partly from the quality of the pig, and partly from the method of using magnetic iron ore as lining. In some instances almost the same weight of puddled bar is brought out as pig put in. The puddlers are allowed 15 per cent. of ore, and 5 per cent. of scales, to their charges.

Sheet rolls are run at a higher speed than I have usually seen—from 50 to 60 revolutions for 20-inch rolls require expert and active workmen. Sheet-iron is annealed in a different way to that adopted in England, by which it is made much more soft and pliable than British sheet, and fetches a higher price. At one sheet mill I visited, in an out-of-the-way part of the country, I found that a beautiful, highly polished article was made, to compete with the celebrated Russian sheet, which is much used in America, and sold at the high price of 45*l.* per ton. The imitation sheet, although in appearance equal to the Russian, is sold at 30*l.* per ton. I was fortunate to learn the method by which this beautiful sheet is made,

The iron is, before rolling, chemically prepared, and is made by only one firm in the States.

The manufacture of steel is not extensive—that of cast-steel is almost entirely restricted to melting up old scraps in small crucibles, as practised in Sheffield. Nothing of the new method of melting 30 or 40 cwts. at a time is yet attempted, nor is any puddled steel made, although the suitable pig-iron is very abundant and good, and from which steel could be produced at half its present cost. The experiments made at Sharon to obtain steel direct from the ore have not turned out so favourably as could have been wished, though excellent steel has been made.

It would require a volume to describe the various "labour-saving machines" (as they are called) which are used. The nail, bolts, spikes, and nuts and washer machines are very perfect. It is interesting to see a man feeding a spike machine with bar-iron, and a stream of red-hot spikes falling out at the rate of 5 tons per day. Of the nut and washer machine the same may be said: one machine makes 18 cwts. per day—a 4-inch square nut appears to be made with the same facility as a ½-inch one.

I have thus given a short sketch of iron-making in Pennsylvania and Ohio, and leave practical men to draw their own conclusions. On this subject, as well as on most things I saw in America, it is impossible to give an opinion which one may not have occasion to change in a short time, as the rapidity with which business is extended, and unpractical measures altered, is wonderful. JOHN PLAYER, M. and C.E.

*Dillenburg, Nassau, Nov.* 19.

## MANUFACTURE OF CAST-STEEL.

SIR,—Your various correspondents appear to have fallen into several errors respecting my challenge to Uchatius, or his agents, and upon other matters. I have not challenged the Ebbw Vale Company, as they are neither Uchatius nor his agents, though the logical "Justitia," who appears to have a patent for blundering, naïvely remarks, "that the Ebbw Vale Company are Uchatius's agents, because they have bought the patent." "Eisenstein" very justly observes, that we must have certain qualities in the British coke pig-iron in order to enable us to produce cast-steel from it by the atomic process, but he is egregiously mistaken in supposing that the spathose iron ore, or anything similar to it, is at all requisite in producing the coke pig-iron best suited for the atomic process.

"Ingot" is not quite correct as to the disposal of my patents, nor are your remarks any more accurate upon this point. To prevent all possibility of further mistakes, I may state that a deed was drawn up, under which it was proposed to assign one moiety of my patents to the Ebbw Vale Company; but as the deed has never been executed, I still look upon these patents as wholly my own, though at the same time I am bound in honour to take no unfair advantage of the non-execution of that deed. As to having any deep or concealed motives for my challenge, I have none whatever. All I desire is a fair field, and no favour.

Your correspondent, "M. D.," like Falstaff with his "eleven buckram men grown out of two," has alarmingly multiplied the number of my patents. I have not the slightest wish or intention of bringing more than one process to compete with the one process patented by Baron Uchatius. As to the principle of the atomic process being wrong, I have never said that it was so; on the contrary, I have at all times firmly and consistently testified to the beauty and simplicity of the process, though I have pointed out the various drawbacks to which it is subject. I believe that, of all men living, I am the least likely to depreciate or undervalue this remarkable process.

To the enquiring "Justitia," I can only reply, that I do not know what Mr. Lenz has been doing since I had the honour of seeing him here last winter, and of casting some atomic ingots for him. Nor do I know what Mr. Roper is doing, having neither seen that gentleman, nor heard from him, since I had the pleasure of edifying him by blowing 40 lbs. of cast-iron into hard cast-steel and iron glass, the latter predominating, by the primitive agency of a very dilapidated smiths' bellows, groaning under the superincumbent pressure of 1½ cwts., and vigorously urged by relays of panting workmen, whose respective "pillars of blast" got up by their exertions, vied in intensity with that issuing from the rusty nozzle of the leathern convenience. My challenge has not been accepted by the Ebbw Vale Company, probably for the excellent reason that I never challenged them; and, lastly, the atomic process does not as a matter of property belong to me, though I have been kindly promised a large share in it, and I am, therefore, bound to desire its welfare. ROBERT MUSHET.

*Coleford, Nov.* 16.

## STEEL MANUFACTURE.

SIR,—Your correspondent, Mr. Green, is at a loss to know how I am to work out my inventions, so as not to infringe Mr. Bessemer's patent rights. I will enlighten him upon this subject. When I carry out my inventions, and require the aid of Mr. Bessemer's process, I will pay him the license fees he charges. And when I use Martien's patent I will pay him his license fees also. Thus I relieve the anxieties of Mr. Green respecting Mr. Bessemer's patent rights. Suppose, however, that there should be some other convenient process for purifying iron, besides those invented by Messrs. Bessemer and Martien, may I not carry out my inventions by the aid of the said other convenient process?

And supposing I employ fuel in purifying the iron, as set forth in my patent process No. 3, may I not blow my iron with high pressure blast in a refinery as long as I please, without infringing anybody's patent rights? And if by my No. 3 process I thus manage to produce, with carbonaceous fuel, a good sound, valuable quality of bar or bloom iron, must I needs infringe Mr. Bessemer's patent rights in order to obtain a red-short, cold-short product, which may be designated as "pig-iron spoiled," by using only the fuel supplied by the iron itself?

I have a great respect and admiration for Mr. Bessemer's talents and perseverance, but as I happen to be the son of an ironmaster, who was in knowledge a century in advance of even Mr. Bessemer's ideas at the present day, I was not exactly so dumbfounded by the Bessemer display as Mr. Green and many others appear to have been. In 1819, my late father, from his furnace at Darkhill, ran crude cast-steel by tons at a single cast. This cast-steel was too strong to be broken in the state of pig metal, by the most powerful men; and small ingots, cast from it, were full of silvery honeycombs, like true cast-steel, and many of these ingots could be drawn out at least as well as an ordinary Bessemer ingot, or, in other words, were inveterately red-short. I have the record of my father's researches upon this subject, in his own handwriting, and the blast he employed was about 4 lbs. pillar, and was directed down upon the metal in the blast furnace hearth. Adversity, the bane of all great inventors in all ages, broke off his experiments towards perfecting the manufacture of cast-steel direct from the blast furnace, which otherwise he would, I doubt not, have accomplished long since. Now, suppose I have followed out my father's views, and can thus produce cast-steel, do I infringe Mr. Bessemer's patent rights? At all events, I have no intention of infringing his rights; on the contrary, I should have been paying him a handsome amount of license fees for the use of his patent, combined with my No. 4 process, had I been free to follow up my patent process, as I wished to do. There ought to have been 10,000 tons of cast-steel made before now upon this plan, and beyond the cost of a few thousands of bricks, and a 20-horse power blowing engine, I know of no other obstacle in the way of complete success, as far as I am myself concerned.

I have seen some of Mr. Bessemer's cast-steel, made, as I infer from its appearance, from the finest charcoal pig-iron. It is beautiful in texture, and when carefully worked it makes excellent cutting tools. It is, however, red-short and cold-short, and an ordinary workman would spoil it in the working. It wants but my process to make it the finest steel in the world. It stands no more test than cast-steel made similarly from coke pig-iron, by the aid of my No. 4 process; and my steel can be worked and twisted, or punched, cold or at any heat, and can be welded like the softest shear-steel.

I must still beg leave to differ from Mr. Green as to the phosphorus being the evil in the Bessemer process, or that the evil which my process was intended to remove was more visionary than real, the facts of the case being these—that without my process the purified ingots all cracked to pieces, and with it they drew out sound; and analysis showed that these sound bars still contained a notable proportion of sulphur and phosphorus. The analysis was by Mr. Henry. More than this, I am of opinion, and all my experience goes to confirm it, that without phosphorus ductile iron cannot exist. There may be too much phosphorus, as there may be too much carbon, but it is an essential ingredient in good iron.

Whether Mr. Green is correct in his inference, "that however good my invention may be, it is in the wrong hands," remains to be proved. Messrs. Uchatius and Lenz probably consider discretion the better part of valour, for they have not lifted the glove I cast down at their feet. I only wish the challenge was for ten times the amount, and that the parties were bound to accept it.—*Coleford, Nov.* 25. ROBERT MUSHET.

## THE LAW OF BANKRUPTCY.

SIR,—There is at this moment an enquiry into the existing law of bankruptcy, and I understand that various meetings have been held, with a view of suggesting improvements. Allow me, through your Journal, to give my opinion. Under the present state of this law, a man may be made bankrupt when in point of fact he is in a state of solvency, providing his estate were properly administered, and not subjected to the ruinous consequences of legal expenses—those necessarily attached to the Bankruptcy Court, and, worst of all, of loss by *forced sales*. I would propose, therefore, that there should be some provision made to prevent bankruptcy, and would suggest the following:—That any person or firm, finding difficulties pressing upon them, should have the power of applying to some court or officer, duly appointed, for protection from the creditors for a certain number of days, on the expiration of which he should be bound to meet all his creditors, and lay before them a true statement of his affairs, showing what assets he may have, and how they can be realised. If three-fourths of his creditors in *number* and *value* agree to the composition offered, then the applicant shall by law be freed from bankruptcy; and his affairs shall be wound-up under a commissioner, assisted by the applicant, who shall give his time without any remuneration; but the commissioner shall be paid 5 per cent. upon the amount divided amongst the creditors, such sum being paid by the estate.

I am induced to offer these suggestions because many cases have come before me in which the creditors might have obtained a much larger composition, had the estates not been obliged to be sold at once by auction or otherwise. As regards the Court of Bankruptcy, let it remain as it is; do not disturb a law which works so well. If a debtor has dealt dishonestly or recklessly, his creditors are the parties who can best appreciate such conduct: they will refuse to accept his composition, and leave him to be dealt with according to the bankruptcy law. SENEX.

[Our correspondent does not seem to be aware that what he proposes is already in effect provided for by the debtor and creditor clauses of the Bankruptcy Law Amendment Act, by which a trader unable to meet his liabilities can privately petition the Court, showing his estate, get protection, and call a meeting of his creditors to assent to or dissent from a proposal he makes. The creditors meet, and determine the course to be taken. If they think it is a case to be investigated in Bankruptcy, the petitioner is adjudged bankrupt; if not, the terms as to realising the estate are agreed to, upon complying with which the petitioner is released from his liabilities.]

## DIFFERENCE AS REGARDS THE DISQUALIFICATION OF DIRECTORS OF JOINT-STOCK COMPANIES.

MADE BY THE 7 AND 8 VIC., C. 110 (NOW REPEALED), AND THE 19 AND 20 VIC., C. 47.

SIR,—I observed in your last week's Journal a letter from Mr. Chris. Richardson bearing the above title, its apparent object being to point out an assumed difference between the above mentioned Acts of Parliament. Mr. Richardson placed the 29th section of the 7 and 8 Vic., c. 110, in juxta-position with the 47th clause of Table B., of 19 and 20 Vic., c. 47, and desired his readers to note the difference.

Without wishing to raise an argument, or to be guilty of any rudeness to Mr. Richardson, I beg leave to say that his notion of the difference between the two Acts of Parliament is erroneous, and the publication of his letter apt to mislead those of your readers who may not have made the 19 and 20 Vic., c. 47, their study. I admit Mr. Richardson's statement of the 7 and 8 Vic., c. 110, s. 29, to be correct, and until that Act was repealed it applied to all joint-stock companies, and it may be that it still governs some few companies. Such clause was:—"That if at any time any director cease to be a holder of the prescribed number of shares in the company, or shall become a bankrupt or insolvent, or shall have suspended payment, or compounded with his creditors, or be declared a lunatic, then it shall be unlawful for any such director to continue as a director, or to act as such, and the office of such director shall be and is hereby declared to be vacant." I repeat, that I admit such *was* the general law of joint-stock companies, but I protest that the 47th article of the 19 and 20 Vic., c. 47, ought not to have been cited by Mr. Richardson, as showing what the present law is, for the all-powerful reason that neither is the 47th article, nor is any part of Table B., binding upon joint-stock companies. The adoption or rejection of the 47th article by any joint-stock company is entirely optional; and from my experience as to the constitution of such companies, I unhesitatingly state that very few companies adopt such article in its integrity; it is in most cases modified—I regret to say, seriously modified, and the clause—"If he is concerned in or participates in the profits of any contract with the company," if not entirely omitted, is either so qualified, or overladen with provisoes as to exceptional contracts, that its virtue is entirely emasculated.

My reply, therefore, to Mr. Richardson's letter is in a word this—the 47th article does not represent the present general law of joint-stock companies, but only what would be binding on any given company if it chose to be bound by it. I affirm the adoption of Table B. is perfectly optional, and the more this truth is disseminated the better, in order to counteract the popular and erroneous notion, that all joint-stock companies are governed by Table B. Shareholders should watch over the constitution of their companies very jealously, otherwise in the day of adversity they may find not only that Table B. has been dispensed with, but that their articles of association afford them no protection whatsoever. Usually, the promoters of companies fabricate the articles of association; but the shareholders should insist upon having a consenting voice, or, what would perhaps be more prudent, refuse to enter a company, the constitution of which they have not considered.—*Nov.* 25. T. T.

## COPPER SMELTERS.

SIR,—I have for several years periodically addressed you upon a subject which most deeply interests many of the supporters of your valuable Journal—the unjust position in which the copper mining interest is placed, as regards the copper-smelting monopolists. The time has again arrived when, perhaps, a few remarks from me may not be considered out of place.

Complaints upon this subject are becoming more frequent, and most certainly not without cause; and looking at the present depressed state of the copper miners, and the almost fabulous profits of the copper smelters, it appears to be nearly incredible that such a state of things can possibly exist in a great commercial community like this—that one body of men should be in such a position as to be enabled to prey upon the very vitals of one of the most important producing interests of the country, to the extent, in many instances, of utter ruin, and in most cases of depriving them of nearly all the profits they are so justly entitled to upon the large capital they advance, and their persevering industry in opening and working the copper mines. I have been making a calculation of the present profits of the copper smelters, and find that, taking the standard of last week's sales, both in Cornwall and at Swansea, they are clearing a nett profit, after paying every possible expense of carriage of ores to the smelting-works, all smelting charges, and expenses of sales of copper, of very considerably more than 50*l.* per ton, upon every ton of copper they sell; and however enormous this may seem, I am quite prepared, as I have done upon many former occasions, to prove this fact to the fullest extent, as, in consequence of my intimate acquaintance with copper smelting operations for many years, I know every expense incurred in each department to the minutest particular.

With these facts before them, is it not astonishing that such an important body as the copper mining interest should supinely submit to such an imposition, and not make an effort to redeem themselves? The remedy is simple: if a few of the leading miners would combine together, and establish an independent copper-smelting establishment, to smelt their own ores, the whole monopoly would at once be broken up, and the miner would receive a fair and reasonable price for his ores, to which he is so justly entitled; and numbers of mines, now actually losing money by their working, would be in a position to pay ample dividends. ANTI-MONOPOLIST.

*Swansea, Nov.* 25.

## EXTRACTION OF THE PRECIOUS METALS.

SIR,—I feel called upon to rejoin to Mr. Evan Hopkins, who seems disposed to place me, if he can, in a false position, and to discredit my discovery, without, as it would appear, a sufficient motive, either on his own behalf or that of his foreign connections. Whence the want of candour, so unexpected from him, that he fails now to acknowledge he had carelessly disregarded the general information respecting my patent he recently asked for, which my reply points out to have been long since amply given in your Journal, and which he ought not to have overlooked—nay, indeed, could not, as a constant contributor—special reference, moreover, having been made to himself at the time?

He now professes to ignore what I mean by the term "evaporation." If he condescend to refer to English lexicographers, he will find that term explained as "flying away in fume," and "attenuating matter so as to make it fume away"—precisely the sense in which I used it. From this (I must say) very unfortunate criticism, it is clear to me that our worthy querist, practical metallurgist though he be, has never really pondered the principle of my theory, or the details of my process. None, we know, are so dark in mental vision as those who will not see. Perhaps it may be felt that, "Where ignorance is bliss, 'tis folly to be wise"—or, to take another view, should I be expected to give an explanation of my system, and impart "a mind" to understand it too?

In one of the remarks before me—that, from the numerous "expensive failures, it is necessary to enter into such matters with caution"—I perfectly agree, and my aim has been manifestly throughout, since its first announcement, that my process should be tried and found to succeed upon a ton or two of any ore known to be argentiferous, prior to costs being incurred in the erection of plant, &c., for working operations. This is palpable from my published notices, and cannot be denied. And yet the inference is here drawn, indirectly indeed, but too plainly to be mistaken, that I deserve to be classed with "visionary schemers, over-officious scribes, and mere speculators, interfering with and ruining profitable concerns," &c. Now, I ask, is this a just representation of myself or my projects? Will it hold good in the mirror of truth?

As to the processes for extracting gold at Marmato, and silver at Santa Ana, I cannot of course speak from my own knowledge, having never crossed the Atlantic; but hearsay report would seem to indicate that neither of these concerns record hitherto any very brilliant success. Whether or not the details of my treatment are "more complicated and costly" than those of the silver mine here instanced, must, in the absence of practical data adduced on either mode, be left to conjecture. The judgment pronounced against mine is not, however, admissible upon a one-sided dictum merely. Where are the proofs of this vaunted comparative economy? From the variety of operation, and the known costliness of one ingredient in the foreign process indicated, I unhesitatingly assert that the entire charges on it would, at least, double the amount of mine. That process, I presume, and it may be inferred so from the remark as to "the difficulties of concentrating poor silver ores," is employed upon mineral of a pronounced and sure highly auriferous or argentiferous value. In his comparison, Mr. Hopkins wholly evades the distinction to be drawn between ores of this character and the argentiferous iron pyrites which I profess chiefly to deal with, of which sulphur is so large a component. Is the manifest disregard of this distinction, and confounding of essentially different qualities of ore, designed for a plausible but unreal deduction in favour of his argument? Very rich ores can, of course, be afforded to lose largely in the process of reduction, even on mercantile considerations. But the great question, after all, is, I admit, one of costs; and here, upon those incurred by my treatment, I find I have been misunderstood, and perhaps have not sufficiently shown that the quoted charge of 10*s.* per ton relates only to the desulphurising operation, after the matrix has been reduced by stamping, sieving, &c., to a minute pulverisation, which would certainly add to the cost another 10*s.*, or perhaps 15*s.* per ton; and, consequently, upon ores of only 5 ozs. silver per ton value, if ascertained by acids (too costly for use on a large scale), little or no profit, perhaps, could be looked for under my system. But if such previously declared value had resulted under any open incandescent process, then I should still expect by use of mine a surplus over charges from the saving of precious metal, by precluding all evaporation—a term which I now repeat, as best expressive of the source of my success, or, more correctly, perhaps, of the non-success of other plans for the same object. However, let justice be done, and fair play be allowed me I have never, as already said, advocated my treatment for the poorer class of ores. My letter in your Journal of Nov. 14, following that of Mr. Hopkins, may have been opportune, as showing that I now possess the means to operate with confidence, which I could not sooner, upon a ton or more of any matrix of reputed value in silver or gold; and I may reiterate what has been more than once announced—that the ore I have under actual treatment has yielded heretofore, by accredited assays on samples of the deposit I obtained, from 5 to nearly 500 ozs., and in one instance beyond that, per ton of pyrites—the 500 ozs. return being equivalent to about 125 ozs. of silver per ton of ore. Mineral more or less of this character only do I recommend for my process. The apparatus for trials in bulk to the extent alluded to has been erected at my own cost, and the sole charge I make for them is of a sum sufficient to clear the working expenses. Am I, then, to be ranked with "speculating place-hunters," held up by your contributor no doubt to well merited censure? Upon this, if such be indeed the object, identifying me in effect with mere mechanical inventors, whose schemes have all proved abortive, I make bold to appeal to a discerning public, and only request that a judgment may be reserved until my operation in hand is finally completed and worked out. Of the favourable issue I have no fear. And when the result has been clearly ascertained, and every item of charge brought to book, I do not despair of proving even to Mr. Evan Hopkins, that the costs of my process are sufficiently moderate to admit of its being recommended as an economical mode of "concentrating poor silver ores to a higher per centage," although not so profitable upon them as on those of a better class.

*King's Mead-cottages, New North-road, Nov.* 23. P. A. GODFREDY.

## THE IRON QUESTION.

SIR,—I thought I had sufficiently eulogised Mr. Bessemer in my letter, inserted in the *Mechanics' Magazine* and in your Journal of Oct. 24, but it does not seem to satisfy Mr. William Green. I said that Mr. Bessemer had not overcome the difficulty—I did not even hint that he *never would*, or never *could*, overcome it. It was not logic with which I had to deal; I wrote about well established facts; and not one of Mr. Bessemer's published patents has enabled any manufacturer to produce either marketable iron or steel from common materials.

Mr. Bessemer may have a process not yet disclosed for amending the former processes, and by which he may be enabled to produce both marketable iron and steel from ordinary cast-iron. But even if this be so, he has been anticipated by Mr. R. Mushet's invention, which has already produced from ordinary pig-iron sound welding cast-steel and tough iron.

There are some of the purest descriptions of charcoal pig-iron which, when treated by Mr. Bessemer's published processes, afford cast-steel, which has many of the characteristics of first-rate steel, as regards the colour, grain, and facility of tempering; but then it is full of cells in the ingot, it is cold-short in the bar, and is not very tough at a red heat, and if heated a little above a red heat it crumbles under the hammer; yet, when carefully drawn out, it tempers well, and makes excellent cutting tools. I do not, of course, attempt to reason upon any forthcoming patents of either Bessemer's or Mushet's, and confine myself strictly to those which are known to the public, and as regards these, it is certain that Bessemer's processes are of little avail without Mushet's amendment, and Mushet's process is not at present valuable, apart from the process of purifying cast-iron by forcing air through it when melted, or apart from some other process for purifying it in any other convenient manner, if there be any other convenient manner of purifying cast-iron. Without hammers and rollers the puddling process avails little or nothing, and hammers and rollers would be of small account without puddling furnaces. Possibly the astute Mr. Green may be able to comprehend this logic, though he could not comprehend the parallel case between the Bessemer and the Mushet process. Each appliance, and each process, possesses its own peculiar degree of excellence and merit; but they are mutually dependent upon each other for utility of operation, and perfecting the results obtained.

Nothing that Mr. Mushet can hereafter invent can in any way entitle him to the merit of Mr. Bessemer's great discovery; and, on the other hand, nothing that Mr. Bessemer may hereafter patent can deprive Mr. R. Mushet of having been the first to remove the obstacles to the success of Mr. Bessemer's process. As to Mr. Bessemer having the wisdom to foresee that the air would deflagrate and destroy the sulphur, it is mere bosh; for the sulphur remains if you blow the iron down to the last particle, so does the phosphorus.—*Nov.* 21. SIDEROS.

## VENTILATION OF COAL MINES.

SIR,—In your last Journal, a letter appears from Mr. Wales, from which it would seem that he expects me to have a public discussion with him on Dec. 2, on the Ventilation of Coal Mines. How Mr. Wales can expect any such thing I do not know, as I have made no such arrangement with him. If Mr. Wales will turn to his letter in your Journal of Nov. 7, he will find the following passage:—"In conclusion, I beg to inform Mr. Hopton that I purpose giving another lecture on the Ventilating and Working of Coal Mines in the course of a few days; in fact, I have diagrams, &c., quite ready, and as I shall, in the course of my lecture, advert to Mr. Hopton's No. 2 plan, I shall feel very glad to see him present; I trust I shall then prove clearly and satisfactorily what I have before stated respecting his 'improved plan.' The above invitation will give Mr. Hopton an opportunity of putting such questions to me as he may think proper, which I shall answer to the best of my ability."

After some thought upon the matter, I expressed my determination, in a letter dated Nov. 11, as follows:—"I will endeavour to be there, if practicable, provided the *lecture be a public one*, and for the benefit of the mining public—that is, where the public can have free admittance without restraint, and providing also Mr. Wales gives me a few days' warning of such lecture."

Mr. Wales knows very well (for *he* will not deny my actual existence) my educational deficiency. In my letter of Sept. 24, I informed him of my having been engaged in coal mines from seven years of age; he will, therefore, see that I have had no education, nor means to get it, but what I got by diligence and attention after a hard day's work in a coal mine. I may repeat for his information, and that of the public, that I am not, and never pretended to be, an educated man, and am, therefore, very unequal to a public discussion with one who has been accustomed to public speaking, and, no doubt, has had educational advantages very superior to those of mine; who being deprived, as I was, of an excellent parent by a colliery explosion in early life, had in consequence to work hard, to help to keep a widowed mother from the parish funds. I am, therefore, not ashamed to acknowledge to Mr. Wales my ignorance of certain scientific terms, &c., he has made use of in his letters, such as "density of air;" but while I acknowledge that, I tell Mr. Wales that I do understand the *common* principles of working and ventilating collieries, which I can prove by an able certificate from a justice of the peace, whose collieries I managed for some years, if necessary; and hope also to convince Mr. Wales and the public, at the meeting on Dec. 2, to which he has invited my attendance, for the purpose of putting certain questions to him (his own stipulation), which he has pledged to answer "to the best of his ability."

Be it, then, understood by Mr. Wales that I meet him an uneducated man, who has learnt all he knows about the management and ventilation of collieries at the pit's bottom; and that training has taught me, as I think I can prove, that colliery explosions can only be prevented by a thorough diffusion of air throughout mines in such proportions as to make the gas inexplosive, or, in the words of the late Colliery Act, so as to "render harmless noxious gases."

My plan No. 2 was never intended to be a model plan for getting coal and ventilating collieries, and I have nowhere said it was. No. 3 plan, on the same sheet, refutes that notion; it was published solely for the purpose of showing the public and colliery proprietors that there were at Lund Hill facilities, without much additional outlay, to have so distributed the air in that mine as to have prevented the late awful explosion; and this fact, be it known to Mr. Wales, I pointed out to Mr. Stewart, one of the Lund Hill proprietors, before my plans were published, and to which he made no objection. If, however, Mr. Wales is of opinion that the ventilation was perfect in No. 1 plan, and a safer method than plan No. 3, as I have exhibited, so let it be; and I am willing to leave the matter in the hands of colliery engineers, sensible colliers, and the public to be the judges between us. WILLIAM HOPTON.

*Castleford, Pontefract, Nov.* 24.

## FORT BOWEN MINE, AND ITS MANAGEMENT.

SIR,—In your Journal of last week, there is a report from the manager of this mine, dated Oct. 21. I left the mine on the 5th of the same month, after a close and continuous residence on it of one year and eight months, and since my return have heard of more than one shareholder complaining of the great mystification that takes place in all matters connected with the property.

Previous to my leaving, orders had been received to give all hands notice to quit, and arrangements had been made for the passages of the officers and men back to England. Parties who had gone out only last February, with three years' engagements, receiving their notices after seven months and a half; and a company starting with 10,000*l.*, being run out in eight or nine months, without "the mine" being aware that it had got through one-third of the money, are rather mysterious matters; but without going into that subject now, I would call the attention of shareholders to this particular report of Capt. Clemes, Oct. 21. They are aware that the grand desideratum was "gold for the mail" in regular remittances, and, therefore, it was the duty of the manager to lose no time in meeting the demands upon him. Capt. Clemes arrived at the mine on March 4, accompanied by a sufficient staff, and now, with all complacency, writes on Oct. 21 that he has gone down No. 3 shaft "for the first time." Does it not strike any shareholder to enquire what he had been doing during the interval of seven months and a half previous? There was nothing to prevent his being down the shaft, and making this identical report, on March 21, instead of Oct. 21. And considering the shaft was sunk on the lode itself, and was in capital condition, and that anyone desirous of proving the lode could, after a week, or ten days at the most, have had the engine in full swing—pumping, stamping, and amalgamating—surely a mystified shareholder may venture to ask why that was not done; for, if it had been done, the present ruin would in all probability not have befallen them—at any rate, if a stoppage had taken place eventually, they would have had the satisfaction of knowing that the mine had been fairly proved, as seven months' steady driving on the lode would have fully developed it, and, in my confident opinion, satisfactorily so. A good salary of 1000*l.* for the year was given to Capt. Clemes, including, as he told me, the time of passage out and home, which would leave him but 10 months of work. Of course, much was expected from him, and had he only taken the plain course before him of at once working the mine, which, I repeat, did not require a delay of more than ten days, after his arrival on March 4, to be again in full work—for be it remembered that I had suspended operations in it only three months previous to the staff coming—I firmly believe the shares would have been by this time getting into respectable notice.

Having been on the spot, I of course know everything, and can only say that the inventive faculties of Capt. Clemes to employ time anyhow but in the mine at first fretted and mystified me, for I had been some time on the property, had worked very hard on it, and naturally was desirous of its success; but the continued obstinacy of

it became at last simply ridiculous, much as one might regret the unavoidable result now taking place.

As to expecting anything between now and the remainder of Capt. Clemes's time in January, it is useless. If he really is driving a level, as stated in the report, 47 ft. below surface, and 13 ft. below the level I drove, to which he refers, he is under the lode, and driving parallel with it; and all he is likely to get at that depth will be small bunches of kookan here and there, well enough to look at, but perfectly poor in gold. But I am inclined to think he must be connecting his winzes through my level above, and not at the 47 ft. depth; for I am very dubious of the statement, and think there must be some clerical error in it, when I see by the report that they have driven 5 fms. from shaft at the new level, which they must have done in 10 or 12 days, notwithstanding the ground was "soft and difficult for driving, treacherous—so much so as, with every care, they could scarcely make headway; added to which, copious discharges of water, bad ventilation, and difficulty of keeping candles lighted"—together with, of course, the necessity for particularly careful timbering, which every one who knows that part of the world is well aware is a slow affair. With these statements before me, and my knowledge of the locality, I am dubious as to the 5 fms.; if, however, it is correct, it only shows what might have been done had such good working been kept up for seven months.

There are other matters which I purpose bringing before the shareholders (probably at a meeting): in the mean time I can assure them that remittances of gold ought and might have been regularly made every month after the arrival of Capt. Clemes and the new staff.

As many shareholders may want to know who it is that writes so positively on these matters, I would beg to inform them that he is one who went out as storekeeper to the company in January, 1856, but who, owing to the retirement of one captain (Tregoning), and the death of another (John Paul), had the entire working management of the mine under great difficulties for seven months and a half, during which time he succeeded in sending home some 250 ounces, and received many thanks from the board, even to a most complimentary extent. WILLIAM OSBIO.

*Pimlico, Nov. 25.*

## THE WINDING-UP OF THE MEXICAN AND SOUTH AMERICAN COMPANY.

SIR,—Curiosity carried me into the Rolls Court yesterday, to hear the cases of the different petitioners in the above cause argued; and it would seem, from what came out in Court of the financial difficulties which had rendered the application for a winding-up order necessary, that a large majority of the shareholders were taken completely by surprise at the present state of that company's affairs. Indeed, it was only in March last—according to the report in your Journal of the general meeting then held—that a vote of thanks to, and of entire confidence in, the directors was passed. The mischief and folly of such undeserved courtesies is now apparent; for to any impartial person who had read Mr. Alison's able pamphlet, published about that period, it was self-evident that his charges against the board of directors were completely and satisfactorily made out. Votes of confidence are, however, exchanged for bitter strife; and I can only hope, for the sake of the hapless shareholders now enmeshed in an equity court, that the true *why* and *wherefore* of the 80,000*l.* of present responsibilities will be there ferretted out.

A practical lesson, however, may be learnt from this calamitous case (which is my main object in thus referring to it), by the shareholders of two other *scrip* companies, partly under the same management, who, I trust, will at once perceive the wisdom of having the companies alluded to registered, with limited liability, under the 19th and 20th Vic., cap. 47, or they, too, when they think "all in the right," may find "all in the wrong." They, too, may be suddenly called together by special notice—may be blandly told that their affairs are in a financial fix—and then find their directors petitioning for a winding-up order.

As a general proposition, it may safely be predicated that *scrip companies* are in principle legally and commercially objectionable. They are, in fact, little mercantile oligarchies, in which directors are everything, and shareholders nonentities. They are companies without deed of settlement, without registration, often without auditors, or published accounts, and in which the shareholders have no legal powers of control, except as given by a few loosely worded regulations on the back of the scrip shares; and shareholders can exercise little real power at general meetings, because of the frequent exclusion of reporters, and in consequence of the facilities scrip shares afford to unprincipled directors to pack general meetings with hireling advocates and mercenary tools, who, of course, are always waiting to take the cue from, and do the bidding of, their employers. CHRISTOPHER RICHARDSON.

15, *Charles-street, St. James's, Nov.* 25.

P.S.—There is a mistake in my first letter of last week which you must allow me to correct. I am made to use the term *silver* ores instead of *gold*, with reference to the produce of the Purima Mines; and there is an omission in the heading of my second letter, which destroys its meaning. It should have been—"Difference in the Disqualifications of the Directors of Joint-Stock Companies made by the 7th and 8th Vic., cap. 110, and the 19th and 20th Vic., cap. 47."

## HINTS TO MINING COMPANIES.

SIR,—Mining companies are formed for the purpose of facilitating the development of the mineral resources of a country, by raising, in the shape of small contributions by each of a certain number of individuals, a capital sufficiently large for the purpose of carrying out the necessary, and often expensive, operations of extracting the minerals from the bowels of the earth; and the circumstance that, even in case of the complete failure of an undertaking the loss sustained by each individual member of a company is comparatively small, forms also an important item of the advantages which arise from the formation of a company. The formation of a company, and the issuing of shares, are the means by which the end (in this case mining, or the extraction of mineral deposits, which are more or less difficult of access) is to be accomplished; and the few instances in which speculation in shares forms the principal object, and mining only the pretext, are disgraceful exceptions, and cannot affect the definition. Directors are with respect to a company what a government is with respect to a nation; the less secret and despotic or arbitrary, and the more open to impartial investigation and scrutiny their proceedings are, the greater is the probability the affairs will be well managed. In a well organised Government, good care is taken that the individuals who compose the administration for the time being cannot make the public interest subservient to their private interests; and a good Government would certainly not be satisfied with promoting, in all its various administrative measures, solely the welfare and interest of the generation which happens to be in existence at the time being, but it would most certainly consider the welfare and prosperity of future generations as well.

The position of the directors of a company (mining as well as any other company) may be said to be precisely similar in many respects to that of a Government, and it strikes me that it would be well if the officials of a company were placed under similar restrictions as the officials are who form the government of a free and socially well organised nation; and it would hence be not at all unfair, but only a wise measure of precaution, if, amongst other similar measures, it was stipulated at the formation of a mining company, "That whosoever accept an appointment as director be, as long as he remains such, prevented from buying or selling any shares of the company of which he is a director." Such a stipulation would be only carrying out a principle which is generally acknowledged to be a sound one; the same principle by which it is thought unfair and highly objectionable that the Government of a country, as such, should engage in any business transaction of a nature by which it would become a rival or a competitor with its subjects, thus insuring to itself, as a matter of course, always the lion's share of any advantages, and having at its command all possible facilities for backing out of a concern that was likely not to turn out remunerative. There are men who would by no means take advantage of any one of their fellowmen, but who at the same time do not consider it a very great sin to gain a few hundred pounds by taking advantage of a company with which they are in connection, forgetting altogether that thus they are doing neither more nor less than cheating Mr. X. out of a shilling, Mr. Y. out of two shillings, &c., and that they thus place themselves on precisely the same level with, if not lower than, the miserable wretch who makes a contemptible living by imposing upon his good-natured and unsuspecting fellow-men, under various pretexts and disguises, in the streets.

The benefit and advantages of the shareholders for the time being ought not to be the only and sole care of the directors of a mining company; but in planning and taking all the respective measures, they ought to look upon the present shareholders only as the representatives of the instalments which have been paid, and all the instalments which are not as yet due ought to be looked upon as representing so many absent individuals, as the future generation, whose interest ought also not to be lost sight of. To illustrate this by an example, a mining company has been formed, and shares have been issued at, say, 5*l.* each, to be paid in five or more instalments, as the case may be, and it so happens that the mine is making returns already, when only one instalment has been paid. Now, if the directors looked to the interests of the company, as well as to that of the shareholders for the time being, they would not at once divide all the profit that has been realised amongst those shareholders, but they would, even in case the mine should continue giving returns, reserve a certain percentage of the dividend for the interest of those calls which have not as yet become due, but which possibly might have to be paid at some future time; the shareholders for the time being would thus only receive a portion, may be a large one, of the dividends, and the remainder would go towards forming a kind of "reserve fund," which would have to be resorted to in case the mine, without being at all exhausted, should, from some cause or other, cease for a time to give returns; or in case of unforeseen events and accidents causing any heavy extra expense.

Such arrangements would, no doubt, be productive only of beneficial results, and would considerably tend to advance mining interest in general, by causing that portion of the pecuniary advantages which mining does confer to be directed towards supporting and advancing mining at such times, and under such circumstances, where it has to struggle with formidable obstacles and difficulties. Every one who knows and thinks a little on the subject will see that, had this principle been carried out and acted upon, a vast number of mines, which at one time gave returns, and which, when from some cause or other they ceased doing so, have been abandoned, would still be in existence, and most probably in a flourishing condition; because then the interest of, if I may say so, the "first instalments" (that is, the shareholders who took the dividends) would have been prevented from eating up all the strengthening nourishment, and when, owing, perhaps, to some peculiar changes in the mineral deposit, the mine for a time ceased to give returns, and the "other instalments" had to be summoned to put their "shoulders to the wheel," they would most certainly not have been found (as they were found) unwilling and weak; they would, at all events, have found something to stimulate them to exertion, even although, it may be, the vigour of novelty and sanguine youth did no more enliven their limbs. But as it was, the temporary stoppage in the mine was not perseveringly overcome; the greedy thirst had made the travellers devour all the water after the first stage only of the journey, and they had none left for the journey over the desert to another fountain, which they thence did never reach: the mine remained unproductive for ever, or till, perhaps, some new company, with a fresh vigour of youth, took it up, and reaped the benefit. If companies, and the division of dividends, were managed in the manner above suggested, very few shares would be forfeited through the apathy of shareholders; for even in the worst case they would have some interest at stake, and the shareholders who represent the "first call" would also not in the least suffer, for they could recover the balance of dividend, which went towards the "reserve fund," at any time they might wish, merely by selling their shares; for the circumstance of such a "reserve fund" being in existence would naturally cause the respective shares to sell in the market at a higher premium than they otherwise would do.

I send the above to you, Mr. Editor, thinking that you might, perhaps, consider it worthy of a corner in the *Mining Journal*, and thus bring it to the notice of all who take a sincere interest in the advancement of legitimate mining. G. J. GUNTHER.

5, *De Beauvoir Villas, Kingsland, Nov.* 24.

SALE OF MINING SHARES.—Mr. T. P. Thomas submitted for sale by auction, at Garraway's, on Thursday, a number of mining shares, both in dividend and progressive mines. There was a very full attendance of brokers, and the prices being generally reserved, a very few *bona fide* purchases were effected.

# Meetings of Mining Companies.

## WHEAL HARRIETT MINING COMPANY.

A special general meeting of the adventurers was held at the offices of the company, Austinfriars, on Monday, Mr. DAMPIER in the chair.

Mr. EDWD. KING (the secretary) read the notice convening the meeting, which was called for two purposes:—1st. To consider the report of Capt. Charles Thomas, who was specially engaged, in accordance with a resolution passed at the last general meeting, to inspect the mine; and 2dly, to forfeit all shares in arrear of call made in August last. The following report was then read:—

*Nov.* 16.—On Nov. 4 I inspected this mine; the following is my report, with my opinion on the questions proposed by you:—The engine-shaft is sunk perpendicularly from surface to 3 fms. below the 74, and diagonally on the course of a lode underlying 1½ ft. in a fm., north from the bottom of the perpendicular to the 90, below adit. The adit is about 40 fathoms deep, making the entire depth of the shaft from surface 130 fms. The lode in the shaft from the 74 to the 90 is small and poor, stones of ore having been found occasionally. The 90 is driven north 14 fms.; at 7½ fms. from the shaft a lode 1 ft. wide, underlay south nearly 2 ft. in a fathom, was intersected, composed of peach, not containing ore enough to value. This is probably the new north lode, which during the former working produced several tons of rich copper ore above the adit level. The 90 is driven south from shaft to a caunter lode 6 fms.; also, east on the caunter 12 fms. to its junction with the south lode. The south lode is also cut in the cross-out 7 fms. south of the caunter, where it is poor. The south lode in the end, not yet quite free from the effects produced by the caunter, contains stones of rich copper ore and tin, worth together 4*l.* per fm. The caunter varies in width from a few inches to 2 feet, seldom without copper ore. For 2 fms. in length, 8 fms. behind the end, the back is stoped 8 feet high; the lode here is worth at the present low standard 16*l.* per fathom. A winze is sunk 10 fms. below the 74, on the cross-course, 8 fathoms before the 90 end. The 74 is driven east from cross-course 14 fms.; the lode in the end is 1 foot wide, worth for copper 5*l.* per fm. Other parts of this level are of no value. About 2 fms. before the 74 end a winze is sunk 16 fms. below the 50; the lode in the winze is 1¼ ft. wide, worth 12*l.* per fathom. The deep adit is driven east of Bates' shaft on a south part 8 fms.; poor throughout; this end is about 40 fms. short of the eastern shaft, which was during a former working, some 12 years ago, sunk about 5 fms. below the then 10 fm. level, which is 10 fms. above the deep adit. The lode in the shaft and the stopings near it below the old adit produced, I think, 400*l.* or 500*l.* worth of ore, but has not been much worked by the present company. The deep adit was driven on a north part 12 fms. north of the eastern shaft to within a few fathoms of it; the present end on the south part is full 40 fms. short of the shaft.

REMARKS.—After the winze is holed from the 60 to the 74, which may be done in about four months, it is probable that pitches may be worked on tribute, at from 12s. to 13s. 4d. in 12*l.*, and on the deep adit being holed to the eastern shaft that a pitch or two may be worked there on high tribute also, with a chance of improvement at the deep adit. At the deepest level (the 90) a new feature is presented in the caunter being found, which was not observed, and seems to have but little if any existence in the upper levels; the ore found in it in the 90 is of good quality, though not enough to pay for working, except for about 2 fms. in length; this little, however, holds out encouragement for sinking some 12 or 15 fms. deeper.

On the receipt of your note I called at the mine this day (Nov. 16), and had conversation with Capt. Williams respecting the questions you proposed to me. After mature deliberation, taking into account the present condition and future prospects of the mine, together with the situation of the several lodes in regard to the engine-shaft, with their inclination in depth, the very small quantity of water to be drawn below the 90, and the time required to cut down and sink a perpendicular shaft from the 74. I have formed the opinion that the better plan would be to sink the shaft forthwith perpendicularly below the 90, which can be done, I think, without any pump-work for 8 to 10 fms.; the water will be very little indeed in the granite, not on the course of a lode. If the shaft be sunk on the lode underlaying north in the same line it has been sunk the last 13 fms. the cost and time in reaching the caunter in the 105 might not be much greater then by sinking perpendicularly, but for sinking deeper still, having an eye to all the lodes discovered in the mine, the perpendicular sinking below the 90 will be much better. Five or six months would be required to complete the shaft to the 90, if it be cut down and sunk anew perpendicularly from 2 fms. below the 74, which is so much time lost in proving the mine deeper. I send a sketch, to show the position of the proposed shaft with regard to the several lodes. The trifling crookedness of the shaft, for the small quantity of water to be drawn or for drawing the ore, is a matter of but little importance. I have pointed out to Captain Williams a plan for shaft-rods at the crooked shaft, which will not be attended with much friction in the working. The former workings, which produced 400*l.* or 500*l.* worth of ore below the old 10 fm. level, can be reached for less than half the cost and time by driving a cross-cut from the north part, than by continuing the adit east of Bates' on the south part. The cross-cut will pass through a branch on its way to the old workings, which would not be proved by driving on the south part. Had the south part shown a promising lode, which it does not, I should prefer driving on it to that of cross-cutting. Notwithstanding the above recommendations for sinking the shaft, it is freely acknowledged that a perpendicular one would be best, and we may regret that it was not sunk in that form from the 74 downward, but the time and cost required to cut it down is the only cause of the present recommendation, and even that would give away if the mine were rich or the prospects of the first order. Should the granite at a greater depth be chloritic, or much more jointy than at the present, much more ore may be expected. I do not expect decomposed granite deeper, except in or near our cross-courses.—CHARLES THOMAS.

The CHAIRMAN said the report confirmed in every respect the suggestions of Capt. Delbridge, which was the more satisfactory, as on a previous occasion Capt. Charles Thomas was called in by the Basset family (the lords) to report upon the mine.

Mr. BIRDSEY then proposed—"That the operations in respect of sinking the engine-shaft perpendicular, and driving the cross-cut, as recommended by Capt. Delbridge, and confirmed by Capt. Chas. Thomas's report, be at once carried out.

Mr. MCCALLAN seconded the resolution.

A SHAREHOLDER enquired what would be the additional cost for the proposed work?

Mr. KING replied about 60*l.* a month.

Mr. THOS. KING remarked that financially they were at the present time in a very good position.—The resolution was then unanimously carried.

The CHAIRMAN said the next question was as to forfeiting the shares in arrear of call made Aug. 6. When the notices were issued there were 530 shares in arrear, but since then several had paid, reducing the number to 390; and it would be proposed to absolutely forfeit them.

Mr. THOS. KING contended that the meeting had no power to forfeit them. The mine was conducted under the Cost-book System, and there were two legal methods of forfeiting or compelling payment—they could either set a merchant to sue a defaulter, or put him in the Stannaries Court.

The CHAIRMAN would ask the meeting which was the most humane course to adopt; to forfeit the shares, as they proposed, or set a merchant, to whom perhaps they were indebted 90*l.*, to recover that amount from a defaulter for 8*l.* or 9*l.*, and they all know that could be done?

Mr. THOS. KING complained that the course they were proposing was illegal.

The SECRETARY said, when they were in difficulties in 1853 they called in a solicitor, who took counsel's advice, and the opinion was that they could forfeit shares under the third rule.

Mr. VALE said, if certain parties did not choose to pay up their call, he wished to know in what position the mine would be, because one and the other might refuse, until they must stop the works.

Mr. THOS. KING was of opinion they ought to be governed by the Stannaries Court.

Mr. HILL said he was interested in several mines conducted under the Cost-book System, and it was the usual course to absolutely forfeit shares in the manner suggested at this meeting.

The CHAIRMAN then proposed that the 390 shares in arrear of call made Aug. 6 be absolutely forfeited, and placed in the hands of the committee to dispose of as they shall deem proper.

Mr. HILL seconded the resolution, which was carried, with one dissentient (Mr. Thos. King).—The proceedings terminated with a vote of thanks to the Chairman.

## GREAT CRINNIS MINING COMPANY.

The general meeting of adventurers was held at the offices of the company, Austinfriars, on Thursday, Mr. ENGLAND in the chair.

Mr. CHARLES read the notice convening the meeting, and the following reports of the committee and Mr. Shaw, the manager:—

In accordance with the resolutions passed at the general meeting, held on July 9 last, your committee have observed strict economy in carrying out the works at the mines, and have only prosecuted those parts which gave the greatest promises of success and the least chance of loss to the company.

THE MINES.—Your committee regret to state that the works at the mines have not been attended with success; and, therefore, it will be their duty to recommend you to wind-up the affairs of the company as soon as possible. Your committee need not state that the best method to effect this is to enforce on you the necessity of paying the calls due, as there can be no doubt when it is known that you have decided to wind up the affairs of the company the creditors will at once demand their claims, and all would be involved in law proceedings, which would be both irksome and expensive. It will be advisable also to settle all claims, in order to get a better price for the mines and materials, which must be sold by public auction, as intricate actions from creditors would cause difficulties which would operate against your interest in the price obtained for the mines. Resolutions will be laid before you to enable your committee to close the affairs as soon as possible.

FINANCES.—The assets of the company are—Cash at bankers and bills receivable, 383*l.* 11s. 11d.; good arrears of calls, 1410*l.* 0s. 11d.; last call of 6d. (say) 200*l.*= 1610*l.* 0s. 11d.; and the value of mines and materials (say) 3000*l.*, being together, 4993*l.* 12s. 10d. The liabilities are—Merchants, 3018*l.* 9s. 4d.; bankers, 700*l.*; dues, 490*l.* 12s.; sundry bills not charged (say), 300*l.*; and charges, 57*l.* 1s. 11d.—together, 4566*l.* 3s. 3d.: leaving a balance in favour of the company of 427*l.* 9s. 7d. An estimate is appended to the accounts, showing what the ores for sale this day, and for Nov. and Dec., are expected to realise, and also the costs, computed, for the last three months of the year, which it is hoped will not increase the liabilities. Your committee recommend that—First, the merchants' and every other demand should be paid: secondly, if the funds will admit, to pay the interest on the new capital from June 30th, 1857, to Dec. 31st, 1857; and the balance, if any, to be divided *pro rata* amongst holders of new shares who have paid their calls in full, but no shareholder in arrear is to be entitled to either interest or final dividend. In conclusion, your committee regret the operations at the mines have not been more successful; but it is known to you all that they are by far the greatest sufferers by the result; and, being the largest holders, will be careful to see that great care shall be exercised in realising the assets, and in the settlement of the affairs of the company.

*Nov.* 23.—I have carefully examined and valued the whole of the plant, both as it stands and otherwise. If it be necessary to take up and sell the same, and abandon the mine, the whole of the plant will realise about 3000*l.*; but if purchased by any other company, with the intention of continuing to work the mine, I estimate the value of the plant as it now stands, with the leases, at 10,000*l.* In the event of the present company raising a new capital, and following out this speculation, I should recommend the development of the following objects:—That the 100, 80, and 70 fm. levels be continued eastward; that the Union shaft be sunk below the 80 to the 100, and a cross-cut driven from the bottom of this shaft in the last-named level, to cut the lode, and bring the whole of the work through the Union, instead of the engine-shaft, which then can be drawn by steam-whim, and not otherwise. I also recommend that a new shaft be sunk in the eastern ground, to reach the lode in the 80, and continued to the 100. It will be also necessary, in carrying out the objects here recommended, that a new steam-whim be erected for the purpose of drawing and grinding the ores; this must be done if the mine continues to work. The amount of new capital required for the development of the objects here mentioned, together with the new steam-whim, will not be less than 11,000*l.*, and the time required will be over two years. During the last five months, ending Oct., we have been stoping the back of the 80, east of Union shaft, by twelve men, eight on tutwork and four on tribute, and the following is the particulars of their labour:—Ground stoped, 81 fms.; quantity of ore raised, 174 tons; amount of money realised, 903*l.*; cost of the same, including tramming, kibbie-filling, landing, drawing, and dressing, about 500*l.*: showing a profit from this one spot, and from 12 men's labour, of 403*l.* in five months. The above gives an average value of about 11*l.* 2s. 6d. per fm. At present the stopes are not looking quite so well, still the pitch adjoining has improved during the last week, therefore we may reasonably expect an improvement in the stopes very shortly. In the bottom of this level we have a good lode gone down, which cannot be worked until the lower level (the 100) is brought under. We have 13 pitches working in the various parts of the mine, all of which are paying for working. I estimate the average value of all the tribute ground now working at 5*l.* 10s. per fm. We have 195 tons of copper ore for sale on the 26th inst., which will realise from 900*l.* to 1000*l.* We have also about 52 tons broken towards our next sampling, and from the present appearance of the pitches we may reasonably expect to have about our usual quantity of ore from them. The ground at Daniel's has not proved so valuable as we expected it to have done, still we are in hopes of an improvement in this part of the mine; we are raising ores of good quality, but not sufficient to leave a profit worth noticing, from working the ground at this place.

A statement of accounts, from May 30 to Oct. 31, was presented, from which the subjoined is condensed:—

| | | | | | |
|---|---|---|---|---|---|
| Cash as per previous account | £ 120 | 7 | 8 | | |
| Cash for calls | 1409 | 12 | 2 | | |
| Ditto for ores sold | 2238 | 13 | 6 | | |
| Ditto for carriage of ores | 245 | 16 | 8 | | |
| Ditto for loans | 1150 | 0 | 0 | = £5164 | 9 7 |
| Amount paid for interest | £ 420 | 4 | 6 | | |
| Labour cost, April to Sept. | 2321 | 12 | 1 | | |
| Amount paid for materials | 454 | 0 | 5 | | |
| Discount to bankers | 40 | 4 | 0 | | |
| Return of advances | 1450 | 0 | 0 | | |
| Sundry bills | 103 | 4 | 6 | | |
| Manuel's deficiency | 96 | 5 | 0 | = 4485 | 10 6 |
| Balance at bankers | | | | £ 278 | 19 1 |
| LIABILITIES. | | | | | |
| Merchants' balances | £3018 | 9 | 4 | | |
| Sundry bills | 57 | 1 | 11 | | |
| Bill payable | 700 | 0 | 0 | | |
| Dues | 490 | 12 | 0 | | |
| Sundry bills not yet charged (say) | 300 | 0 | 0 | = £4566 | 3 3 |
| ASSETS. | | | | | |
| Bankers' balance | £ 278 | 19 | 1 | | |
| Arrears of calls good (say) | 1410 | 0 | 11 | | |
| Nineteenth call | 200 | 0 | 0 | | |
| Ores and carriage | 104 | 12 | 10 | = 1993 | 12 10 |
| Balance | | | | £2572 | 10 5 |

Mr. WRIGHT said, as one of the auditors, he could state that the accounts were exceedingly well kept.

Mr. SHIPTON observed that Mr. Charles had succeeded in recovering upwards of 200*l.* for back carriage, which had been standing on the books for some time.

The following resolution was then proposed, seconded, and carried unanimously:—"That the reports and the accounts, as presented this day, and certified by the auditors, be passed and adopted, and that the same be printed, and sent to every registered shareholder."

The CHAIRMAN said the next resolution was one in reference to a resolution passed at a previous meeting.

Mr. CHARLES then read the following resolution:—

"That as the prosecution of the works (carried on in the manner directed by the resolution passed at the general meeting held on July 9) have been unsuccessful, and as all the available funds, and the value of the materials, have been spent in the working of the mines, the committee are hereby authorised to sell the mines and materials in such way and manner as shall be most advantageous to the interest of the shareholders; and after discharging all claims on the company from merchants and other creditors not being shareholders, the committee shall, if the funds permit, pay the interest on new capital from the last of June to the last of Dec. 1857; and should there then be a balance in hand, the same is to be divided *pro rata* amongst the new shareholders who have paid their calls in full, but that no shareholder in arrear shall be entitled to either interest or final dividend."

Mr. COXHEAD said the resolution gave power to sell the property in any way they might think proper. It appeared they were only 2000*l.* in debt, and Mr. Shaw stated in his report, that if the machinery and plant were taken up it would fetch 3000*l.*, but if the concern were purchased by a new company, it was worth 10,000*l.* He wished to know whether they had any person in view to buy the mine out and out, or whether they intended to sell it piecemeal? If a new company took it up, he did not think it right they should have it for 3000*l.* He, therefore, wished to know whether they had any *bona fide* offer?

The CHAIRMAN replied, that they had no offer whatever, neither did he know of the formation of any new company, although he did not consider it unlikely that one would be formed. The property would be put up by auction, and at the sale any party would be at liberty to buy it. He considered it would be a profitable purchase, as the mine was standing in an excellent position, and no one could place it in its present state for 10,000*l.* The feeling of the committee was not to pull it to pieces, but that it should be put up for sale as it stands in full working order, and kept drained, and if they could get a fair offer between the 3000*l.* and the 10,000*l.* they would take it. But if 3500*l.* was offered, they would rather make a further sacrifice, and pull the machinery to pieces, as the committee would not recommend it passing into other hands at that price. If the matter was left wholly in the hands of the board, the shareholders would not be dissatisfied with their conduct. The board held too large an interest not to do the best for the benefit of all. He (the Chairman) would recommend some of the shareholders to form themselves into a committee, as a nucleus of a new company, as he was determined to be no party to the purchase, or even take a seat on the board; but such was his opinion of the property, that if another company were formed he should take shares in it, in the hope of recovering some of the money he had lost.

Mr. COXHEAD said there was a large amount owing to merchants, and when they heard of winding-up some of them might be troublesome. He wished to know whether they saw their way clear for going on until January or February next?

The CHAIRMAN said they intended selling forthwith, but that would take them into January, and some expense must go on until the sale to keep the water out. He was extremely anxious it should be wound-up immediately. They stood exceedingly well with their creditors, having no clamorous ones. The concern was altogether in a very fair course for winding-up.

Mr. COXHEAD then proposed, and Mr. SHIPTON seconded, the resolution read by Mr. Charles, which was unanimously adopted.

Mr. WYLLIE next proposed the following resolution:—

"That as it is of the utmost importance to the interest of the shareholders that the arrears of calls should be paid without delay, the committee are hereby empowered to take proceedings against all who may be in arrear after Dec. 31, 1857."

Mr. MELHUISH seconded the motion, and after some discussion it was carried unanimously; and the proceedings terminated with a vote of thanks to the Chairman and committee.

## WEST PAR CONSOLS MINING COMPANY.

The quarterly general meeting of adventurers was held at the offices of the company, Bishopsgate-street, on Tuesday,—Mr. S. W. DAWKES in the chair.

Mr. MURCHISON (the secretary) read the notice convening the meeting, and the minutes of the last, which were confirmed.

A statement of accounts was exhibited, from which the subjoined is condensed:—

| | | | | | |
|---|---|---|---|---|---|
| Balance last audit | £ 13 | 11 | 5 | | |
| Cash to pay call, if shares restored | 50 | 0 | 0 | | |
| Copper ore sold | 98 | 14 | 0 | | |
| Calls received | 895 | 5 | 10 | = £1057 | 11 3 |
| Mine cost, June to September | £661 | 10 | 9 | | |
| Merchants' bills | 189 | 14 | 3 | | |
| Secretary and sundries, six months | 34 | 3 | 4 | | |
| Mine rent | 40 | 0 | 0 | | |
| Advertising | 19 | 0 | 11 | | |
| Printing | 10 | 4 | 8 | | |
| Discount | 0 | 13 | 2 | = 955 | 7 1 |
| Balance in favour of adventurers | | | | £ 102 | 4 2 |

The following report was then read:—

*Nov.* 21.—I have forwarded to you a correct plan of the underground workings; by referring to the same with my report you will understand our pursuits. At the last general meeting I congratulated the adventurers upon a decided improvement in the lode in the 45, I am now happy to say since that time we have driven 20 fathoms through a good tin lode; the lode here has been divided. You will notice our driving has been on the north part, but both parts have again united in the present driving, forming one lode of 4½ ft. wide, good work for tin and copper, and of every promising character that can be desired, besides the pleasing feature to find that during the last 30 fms. driving we have not one drop of water, which is drained by the deep levels of the adjoining mine; this drain is more than ¼ mile to the east of our drivings, showing there is a large porous lode ranging through this space. The new sett is a most valuable addition; we have now a great extent of ground on this lode. You will observe where I propose having a new shaft, which we can get to the 45 cheap, and in the space of four or five months; this will facilitate our explorings, and we shall then be in good order for taking out the ores. The 65 has not yet reached the copper lode; the underlie from the 45 must be more than we expected. The ground here is slow for driving (10*l.* per fm.), but there is no apparent objection as to the character of the rock for mineral. We have just now surface water for the stamping mills, which are driving 14 heads; the new calcining house is at full work; and every dressing apparatus being laid out on the most improved principle, I calculate about Christmas to have 6 tons of tin, and if the present prospect continues to have a parcel of copper ore also. We shall be making preparations to attach heads of stamps to the engine by the time the water stamps will be deficient of power, which is likely to be the case about May next. We are likely to have regular returns, although it is premature to say to what extent as yet; but I am fully persuaded that we shall be laying out a valuable mine. I shall go on prosecuting the principal points as cautiously as possible, and getting ores (that will come in due course), so that we shall be less dependant on the adventurers' pockets than we have hitherto been.—J. WEBB.

The CHAIRMAN said that Capt. Webb was in attendance, and, from conversation the committee had with him previous to the meeting, it would appear they were on a lode as rich as Par Consols. The Chairman minutely described, by a plan elaborately drawn, the position of the present workings, and produced some fine specimens of tin and copper ore, observing that the copper was worth 20*l.* per ton, and of the exact character and appearance as the Par Consols lode.

Mr. HARRISON enquired what distance they had driven in the 65 since last meeting?

Capt. WEBB replied about 25 fms., and the end was now 5 ft. wide.

Mr. MURCHISON said that a good authority had assured him that there was a great improvement in the lode, and that it was apparently as rich as the Par Consols lode.

The CHAIRMAN remarked that they could not have a stronger proof of the improvement than the fact of Major Carlyon, the lord, having purchased a number of shares.

Capt. WEBB believed they would have a continuation of the lode, in length and depth.

Mr. BERRY thought, upon the whole, they were in the most cheering position they had ever been since the company was formed.

The CHAIRMAN considered their financial position very satisfactory. Capt. Webb hoped by Christmas to have 6 tons of tin ready for market, which was a very consi-

derable advance on previous returns. He (the Chairman) wished to know from Capt. Webb whether the returns were likely to keep up, and the probable expense for the next three months?

Capt. WEBB replied that the next labour pay (150*l.* to 200*l.*) would become due in a fortnight, and if the adventurers found the amount of that cost-sheet, he could guarantee, out of the returns of the mine, paying the two following ones, and perhaps three, in addition.

A SHAREHOLDER wished to know when the returns were likely to be regular?

Capt. WEBB said it was impossible for him to answer that question; if he were to say the returns would be 200*l.* per month, they might be 500*l.* or 600*l.* The machinery generally was working well.

The report and accounts were then unanimously passed.

The CHAIRMAN said, as there were so many arrears, he did not think it desirable to make a call at the present time; he believed many would be paid, and, in the event of being disappointed, he would propose that the meeting be adjourned to Thursday, Jan. 7.—A resolution to that effect was unanimously carried.

A SHAREHOLDER said the question was, whether they should proceed at once in the Stannaries Court against the defaulters, or give them until the adjourned meeting to pay up the arrears.

Mr. BERRY said since he had been solicitor to the company he had never sued a shareholder. Every leniency had always been shown to the defaulters by the committee, and it was to be hoped they would now come forward.

Mr. MURCHISON reminded the meeting that upwards of 800*l.* had been received for calls since the last meeting.

The meeting was then made special, for the purpose of disposing of the shares already forfeited.

Mr. MURCHISON said Mr. Tate had already paid 50*l.*, his arrears, subject to restoration, and in the event of refusal, that amount, which was included in the accounts, must be returned to him.

Mr. BERRY said he had 75*l.* sent to him by Mr. Solomon Leonard, being the calls on 300 scrip shares, which he sent in for registration.

A resolution was unanimously passed, that the shares be registered, 200 in the name of Mr. H. Tate, and 300 in the name of Mr. Leonard. Mr. Berry then paid in the 75*l.* It was agreed also to adjourn the special meeting.

Votes of thanks to the Chairman and Capt. Webb terminated the proceedings.

## MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

At NORTH GODOLPHIN MINE, which is touching the once celebrated Godolphin Mine on the south, operations have recently been commenced, and a most promising discovery has just been made. Three well known and very productive lodes in the Godolphin Mine pass through this sett, on one of which, Pearce's grey ore lode, an adit (5 fms. deep) has been driven for a great distance through an unfavourable killas. On sinking 6 ft. below the adit a change of ground occurred, and the lode was found to be a splendid gossan, strongly impregnated with copper, and a few feet under the gossan (as deep as it can be seen without machinery) there is a good lode of copper ore, 12 to 15 in. wide, from which stones of ore have been broken upwards of ¼ cwt. each, and making a produce of 9 per cent. for copper. A water-wheel is about to be erected immediately to prove the lode deeper, when large and early returns are expected, more especially where the great flookan, which had such a favourable influence on the Godolphin lodes, will intersect Pearce's grey ore lode, about 25 fms. west of the present bottoms.

ANOTHER SUCCESSFUL RESUSCITATION.—Most of your readers will recollect the disastrous results attending the working of the CWMDYLE ROCK AND GREEN LAKE COPPER MINE, near the summit of Snowdon. To whatever cause it may be attributed—defective management or incompetent supervision—the concern was eventually wound-up, with great loss to all concerned. The real friends of mining will, however, now be glad to learn that the property is likely to prove equal to the representations of the most sanguine reporters. The sett having been purchased by a company of local shareholders, they are now satisfactorily developing it—a lode of copper of several feet in thickness having been discovered, and working to advantage, and the engineers being confident that a similar lode extends in another direction.

EAST FALMOUTH is likely to prove a trump, and second to no lead mine in the two counties. The lode is cut in the 20, and is worth 80*l.* per fm.; and other parts looking well. On the floors there is upwards of 1200*l.* worth of lead for sale, and many tons of jack, worth upwards of 3*l.* per ton. The lead is rich for silver, and worth about 30*l.* per ton. At the last meeting, a dividend of 2*s.* 6*d.* per share was declared, being the second, and leaving in hand another dividend to the credit of the mine.

DEVON GREAT ELIZABETH.—Every effort is being made to work the mine with spirit, perseverance, and prudence. A very powerful water-wheel has been purchased, and, to press on with the sinking of the shaft preparatory to its erection, a small portable steam-engine will be used for the purpose of keeping the water, and enable the sinking of the shaft, so that no delay shall take place. The lode has been seen at that point, and a fine stone, with beautiful copper ore, taken out, but the increase of water precludes further operations without the aid of machinery.

TYWARNHAILE.—Great activity continues to prevail in every department. The engineers have commenced to heave in the main pumping-engine, and it will be set to work on Gardiner's shaft, which is timbered and divided to the adit, and everything made secure. The boilers are being repaired with all dispatch, as well as the house which is to receive them. The whim-house is about to be commenced, and the repairs of the great house for the grinder and stamps. These works are being carried out as rapidly as circumstances will allow, the late heavy rains and bad weather having considerably retarded operations. The balance-bob, rods, and pitwork, together with the new steam-capstan, &c., are being delivered as required. The tributers are doing well in their respective pitches, and the tutwork men are raising a fair sample of work upon the stopes.

From NORTH WHEAL WERY CONSOLS, a box of splendid specimens of silver-lead ores, from the bottom of the shaft, has been received at the offices, 57, Threadneedle-street, and they are well worthy of inspection by the shareholders and others interested in mining.

GREAT TREGUNE CONSOLS.—Two fine rocks of copper ore have been received at the offices in London: one weighing 2 cwts. was broken from the bottom of the 60, a few days since, and on driving about 5 feet further a specimen weighing 3 cwts. was raised; the latter is almost solid ore. It is reported that the ore breaking in the winze is of the same character, and that a considerable quantity is already on the floors. The lode where the discovery has been made is at the foot of FOX TOR granite hill, ¼ mile from the clay-slate; in the eastern district of the county, the Caradons and Great Phœnix being the southern hills. Although a new place, the geological position of the mine appears good. The lode at surface was found to be 6 feet wide, composed of felspar, with some gossan, supposed to be a tin lode, but now expected to turn out one of the richest copper lodes that has been opened in the eastern district, gradual changes and improvements having taken place in going down, considered by practical miners as showing great chances of success. Four years ago there was not a speck of copper to be seen at Great Tregune, and yet the adventurers have steadily persevered, and Capt. Spargo's opinion throughout is likely to be realised—that the southern hills are not the only rich ones in this district. The mine has recently been visited by several large holders, and the specimens alluded to are worthy of inspection by those interested in the undertaking residing in London.

The WHEAL TRELAWNY silver-lead ores, which will be sold this day (Nov. 28), have been assayed, with the following results:—No. 1, computed 80 tons; produce, 16½ cwts. of lead, and 40 ozs. 7 dwts. 12 grs. of silver per 20 cwts. of ore. No. 2, computed 50 tons; produce, 8½ cwts. of lead, and 21 ozs. 5 dwts. of silver per 20 cwts. of ore.

The LADY BERTHA MINE is looking better at present that ever it has done since its formation. The western end in the 20 fm. level is worth 5 tons of good ore to the fm. When this was first met with the captain reported it to be the finest course of ore ever seen in the mine, but since then the eastern end, in the same level, has cut into a lode even superior for the quality of the ore to the western end, and is now worth 2 tons to the fm., all of which is ready for pile as broken. In the 30 fm. level the lode is 11 ft. wide, and from its splendid appearance there can be little doubt that in a few fathoms exploring the same rich course of ore which has gone down in the bottom of the 20 will be met with. The pitches are turning out good work, and altogether there are few more promising mines.

The DOLYDD AND TREVOR COLLIERIES, near Ruabon, Denbigh, have passed into the hands of a new company, called the Great Western Coal and Iron Ore Smelting Company (limited), with a capital of 50,000*l.* Four-fifths of the capital have been subscribed, and besides the working of the collieries blast-furnaces will be erected by the company at Seend, in Wiltshire, and also at Ruabon. So large an amount of capital being subscribed during the money panic shows that legitimate business connected with mining meets with support from the public.

The CHANCELLORSVILLE COMPANY'S resident agent at Frodsham reports that the machinery just completed has been tried upon several tons of Welsh ores, but that the result of this operation did not answer the expectations founded upon the produce of previous reductions of similar quartz. Subsequent operations on other ores thoroughly established the efficiency of the process. Mr. Harris will immediately operate upon the Chancellorsville ore.

WELSH POTOSI MINING COMPANY.—In the affairs of this company, now in course of winding-up, an application was made yesterday to Mr. Commissioner Fane, to allow Mr. Thomas Clark to inspect all papers, books, and documents, in the hands of Mr. Whitmore, the official liquidator—Mr. Clark having commenced an action against the directors to recover the amount he paid for 346 shares, at 5*l.* each, upon the ground that he was induced to take them upon misrepresentation as to the manner in which the company was to be constituted and carried on. The Commissioner refused the order, as an action was now pending, but observed, that if Mr. Justice Crompton thought it necessary for the purpose of justice, no impediment should be thrown in the way of the necessary inspection.

LLIANGYNOG UNITED MINES, OSWESTRY.—At a meeting of this company, on the 17th inst., one of the largest engines in Wales was set to work, and a long line of rods, which were highly approved by the adventurers and others who attended on the occasion, and amongst whom were Mr. R. Taylor, and other gentlemen. Everything was completed under the superintendence of the agent, Capt. J. Nevell. A dinner was provided by Mr. and Mrs. Jones, of the New Inn, in their usual good style, the chair being taken by Mr. Alexander Read, and the vice-chair by Major French, of Chester. It was agreed to give the schoolmaster 2*l.* per year, and the labourers a good treat, which came off on Saturday last, under the presidency of Capt. Knotwell, the vice-chair being occupied by Mr. W. Parry, The workmen have presented Capt. Knotwell with a splendid bust likeness of himself and Mrs. Knotwell, as a testimonial of their esteem and confidence in him for upwards of four years that he has been connected with the mines.—*West Briton.*

ACCIDENTS.—Richard Prynn, while working at Wheal Mary Ann, Menheniot, had charged a hole with powder, which hung fire; he went to pick it out to fresh charge, when the hole exploded, frightfully lacerating both his arms.

Thomas Jones, fireman in the Gerard's Bridge Colliery, Sir John Mine, Lancashire, was killed by fire-damp, which was ignited by John Critchley firing a shot contrary to the instructions of Mr. Gilroy, the principal manager, who had inspected the place, and told the deceased and Critchley that no more shots must be fired there, and that he would pay extra wages to have the coal got without blasting.

Two boys, Thomas and John Breakell, aged 11 and 16, were killed by fire-damp in Mr. Taylour's colliery, near Chorley. The jury condemned the general management of the pit as loose and negligent; seeing that no provision was made for an examination of the lamps, or a regular supervision of the pit, and that proper signals, with the word "fire" upon them, were not provided. The coroner reprimanded all the parties concerned, and cautioned them as to the future management of the colliery.

## THE PROVIDENCE MINES—"CARBONAS."

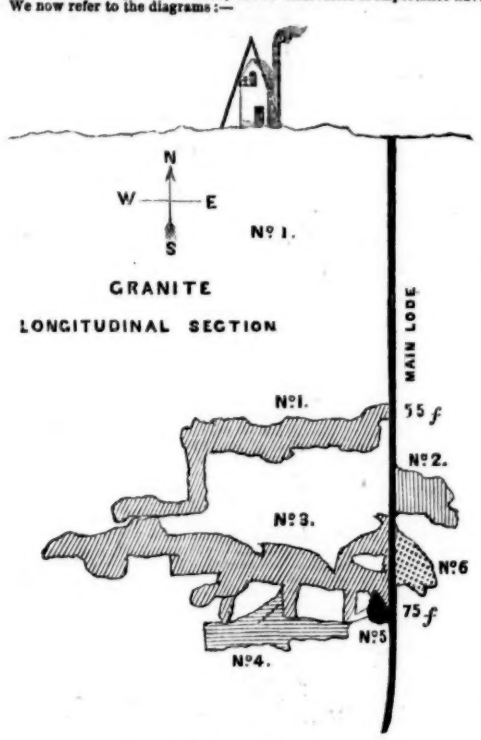
TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Agreeably with my promise, I enclose you the diagrams of Providence Mines, exhibiting the phenomena here called "carbonas." I have endeavoured to trace this curious term to its source, and find its most authentic origin to be an importation from Chili or Peru. Perhaps on this subject Mr. Evan Hopkins, Mr. Murray, or some of the travelled professors, may be able to give us the true definition; but, Sir, I present you with the facts—the diagrams will show the extraordinary character and eccentric outlines of these formations, for which I cannot account, even upon Mr. Hopkins's theory of terrestrial magnetism—perhaps he may. As he appears to have visited every spot on the known globe, and, as it were, holds it in his palm, he has most likely visited this place, and seen the (to me) curiosity. Its display is not meant for such as he, but for poor simple souls who have not, but desire to have, his profound experience: hence my visit.

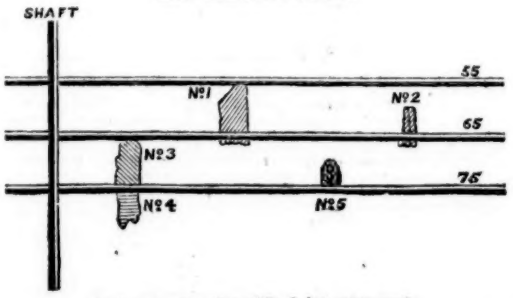
I must, in description, premise that the mine is situated in the granite, about half a mile from its junction with the killas, and about a mile and a half from greenstone; that the hill of granite is highly charged with schoriaceous matter; some of the finest crystals of that mineral are to be found in the neighbourhood; little mica is exhibited in the granite, but stains of iron and indications of mineral are everywhere perceptible—save in the surface rock.

This mine was wrought at an early period as the Providence Mines, at a place in the cliff where one of the lodes is visible. At this place an adit was put in, but it is not known with what success. In 1808 the mine was again resumed, and considerable works executed, by a Mr. Nowell, of Redruth, but without finding anything remunerative. The appearances still to be seen in the cliff, however, warranted further exploration. I visited it in 1834, and tried, with Capt J. Thomas, of Trewelland, St. Just (then captain of Spearn Moor Mine), to get the sett, but was refused. It was granted to another party, who in 1835 set it to work. In prosecuting this lode, the lodes now constituting the Providence Mines were discovered; the principal of these, and on which they are now working, are three in number, and they are wrought for tin. The main lode, or standard, as it is called, is a large lode, nearly perpendicular, to which the carbonas belong, and to which we shall confine our observations, it forming the subject of our paper.

It is composed of a coarse spar, capels occasionally occurring, together with loose growany flookan, but charged with ferruginous matter, very unlike tin lodes in general. This lode is almost destitute of schorl (locally called cockle, or mother of tin), but copper ore in patches and stray stones have been met with, and about 200 tons of this mineral secured and sold. Here, also, that rare mineral, uranium, or pitch blende, was found, upwards of a ton being sold for the paltry sum of 40*l.*, the captains in charge not being aware of its true value. The lode has been sunk on to much deeper levels than are at present worked, but no discoveries of importance have been made. We now refer to the diagrams:—




No. 2—TRANSVERSE SECTION.




No. 6 is a continuation of No. 3, but going south.

No. 1 is the longitudinal section of the carbonas, showing their bearing with regard to the main or standard lode. The great deposits, it will be observed, run north, and the small run south, of the main lode, which is what is usually called an east and west lode. The first carbona, it will be seen, occurred in the 55 (below the adit); this being 45 fms. from surface, is a total depth of 95 fms. from surface. I am thus particular that I may be plainly understood. The situations of the other bunches are so plainly indicated by this diagram that I think it useless to name them. Their contents, however, must be particularly noticed: they consist of tin, accompanied by schorl, the tin being extraordinarily rich—perhaps some of the best work in the county of Cornwall. Large rocks of beautiful crystallised tin are usually met with, and a small quantity of good-natured spar and chlorite. Now, in the main or standard lode there is scarcely any schorl, no chlorite, and but little tin; yet these curious flott veins, as they would be called in some localities, are filled with them. How? becomes the question for the philosopher and the student. By what law of Nature were they deposited?—would magnetic influence effect it? The erratic course indicated by the carbonas certainly favours the assumption of electric action, and that the earth is certainly a vast battery. It may be so.

Want of colouring in newspaper engraved plans obliges me to use the mode of line shading, which I have adopted to show the relative distances and situations of the carbonas, as they might otherwise be supposed to be one flat surface. The widths of these may be seen on reference to the transverse section. Of course, their extent is not yet known—they have only been wrought on to the extent of some 30 or 35 fms., yet from this small space of ground tens of thousands of pounds worth of tin have been broken; and in all human probability tens of thousands yet remain. The whole space of these bunches is no more than a field, yet from this source alone a revenue of 1000*l.* a year and upwards is paid to the lord of the manor for underground, being ten times the value of the surface of the whole estate of many acres. Hear this, ye landlords who object to miners on your estates? Some of the ends at work at the present moment are worth 150*l.* per fm.; some 100*l.*; and others 70*l.*, 50*l.*, and so forth. The mine looks now as well or better than ever, and promises to be one of the great and lasting mines of this century.

The second lode, though of great importance, sinks into insignificance when compared with this, but is of a similar character to the main or standard lode.

The third lode is a caunter, of a capelly character, containing chlorite. When this mineral occurs, splendid bunches of tin have been met with.

The number of men employed is 170; boys and girls, 100: total, 270.

Having now, Sir, occupied your space so fully on this mine, during this week and last, allow me to conclude by stating that, on my second visit, I had the gratification of finding that the authorities had listened to my petition, and had decided to send the great beauty of a tin stone to the Museum in Jermyn-street; and that Captain Anthony had consented to execute a large plan of the mine for the same institution.

GEO. HENWOOD.

SILVER IN SEA-WATER.—In the early part of this year, Prof. Faraday related to the Royal Society the experiments of Mr. Field respecting the presence of silver in sea-water. That silver could be detected in sea-water had already been shown by Malaguti, Durocher, and Sarzeau. Their calculation was that it contained 0·00000001 per cent. They detected one milligramme in a hundred litres of salt-water from the canal at St. Malo, and also in the ashes of sea-weeds; in the *Fucus serratus*, 0·00001; and in *Fucus ceramides*, 0·00000001 per cent. of silver. From the solubility of chloride of silver in chloride of sodium (sea salt), Mr. Field suggested that the silver in that form was dissolved in sea-water, and would be deposited upon copper or yellow metal by the known galvanic reaction. He also observed that that would be likewise the case with the sheathing of ships. Mr. Field analysed 5000 grains, and found in one case the amount of silver to be 10 ozs. 2 dwts. 15 grs. troy per ton, or 35·326 grains per 1000 kilogs.; and in the other 7 ozs. 13 dwts. 1 gr. troy per ton, or 238·006 grains per 1000 kilogs. I have analysed two different portions of yellow metal, being the worn-out sheathing from Dutch ships in the East Indian trade. The quantity analysed was 1 kilog. (equal to 2 lbs. 8 ozs. 3 dwts. 0·3 grs.) in both cases. The result was—341 grs. per 1000 kilogs., and 271 grs. per 1000 kilogs. The amount of silver will not be constant, because the sheathing is covered with sand, lime, and other materials, and these cannot be separated without some chance of loss. This communication may possibly confirm the observations of others.—Prof. S. Bleekrode: *Journal of the Society of Arts.*

## MINES AND MINERALS OF AMERICA.—No. X.

BY C. S. RICHARDSON.

SALTPETRE WORKS OF TENNESSEE.—The thermometer stood at 95° for several days in New York at the early part of August, and every one who could conveniently leave the heated city for a breath of fresh air did so. I had been longing for several weeks to get into the country, caring but little where, so that I might breathe an atmosphere a little more pure than that which prevails in the city at this season of the year. One sultry morning an order came into the office for a survey in the Southern States: out of the frying-pan into the fire, thought I; but anything for a change. So hastily packing up my travelling gear, maps, instruments, &c., I was soon aboard the *Alabama* steamship, bound for Savanna. We had a fair wind out, until near Cape Hatteras, when it changed to dead ahead, which caused us to be four days before we made the coast of Georgia; but the weather was fine, and most deliciously cool and refreshing. We could find it getting warmer as we reached the shore, and all of us northerners began to calculate on what sweating times we should have. Early on the fourth morning we run up the river and landed safely in the city of Savanna: but here judge my surprise—on going to the hotel, Paluski House, I found the temperature 7° lower than it was in New York, being only 88°. Savanna lies very low, being built on the rising ground of the extensive marshes that run for 20 miles down towards the sea. These marshes are not all waste, they are cultivated into rice fields, and produce abundantly. Deep ditches are cut through them for drainage, but the miasmic vapours that emanate from the stagnant pools in the cane brakes are very infectious, producing yellow fever and cholera. But this year epidemic diseases of any kind—even ague and typhoid fevers—have been scarcely known throughout the South, an unusual degree of health prevailing. This part of Georgia offers nothing of interest to the miner, the country being entirely diluvial. The stranger may enjoy himself, however, very well for a day or two, for Savanna is a considerable city. The principal things of interest that I saw were niggers and alligators, of which there are a superabundance, and both of which you may see gambolling in their pristine state. The road to Tennessee lies through Macou and Atlanta, both flourishing towns. Near the latter is a fine copper mine, of which I shall speak in a future article. Arriving at Chattanoga, you pass on through the upper part of Alabama, and run down the Nashville-road for about 100 miles, and then turn off at Tullahoma, on the new MacMinville-road, at which place the railway terminates. We now ascend the mountain country, travelling by coach over "such roads"—the like have not been heard of for some centuries I should think in England. Here you begin to realise the beauties of Tennessee, with the finest climate and a fertile soil. This state exceeds all others in America; it is the land for the European emigrant. Cheap land, cheap food, and plenty of employment await the industrious settler. It seems somewhat astonishing that this beautiful country has remained so long unknown to the English capitalists, and particularly to the emigrant; but I presume its inland position has been a bar to its rapid settlement. The country abounds with the finest timber in its primitive forests. Most of the valley lands are cleared, and the luxuriant crops of wheat, oats, cotton, Indian corn, and tobacco attest their wealth, giving produce to the husbandman's toil. The chief object of my visit was to examine into the feasibility of working the immense deposits of nitrous earths found in the numerous caverns of White County, and lay out such works as would return a commercial profit in the manufacture of saltpetre, and clearing the mountain lands.

At a short distance from Bon-Air Springs, Sparta, White County, and Tennessee is a cavern known as "England's Cave"—the name of its original owner. It penetrates a mountain situate between two deep valleys, and at some period, no doubt, had a communication with both, for the cause of the existence of these caverns was the flowing of water from one valley into another at lower levels. The stratum is a carboniferous lime and sandstone; and the cave I am about to describe lies in the soft strata between the two; it runs in a north-easterly direction, and has been explored for only about half a mile in extent. It is about 25 ft. wide, and varies from 8 to 20 ft. in height; it is very irregular in its level, sometimes pitching down 20 ft., and then suddenly rising again. There are many lateral branches, the full extent of which no one can estimate. Small fissures in the sides, only 6 in. wide, often are found to lead to chambers of immense extent; one in particular I held my torch in—a yawning abyss was below me, probably 200 or 300 ft. deep: a falling stone could scarcely be heard. It appears like a great fissure, reaching nearly up to the surface, varying from 2 to 10 ft. wide. It bears evidences of being water-worn, and the curious shaped stalactites that hang from some of the ledges give it a singular appearance; it is a truly awful looking chasm. An intricate winding passage in one direction leads to several deep pits, one of which, some years ago, was explored, and at the bottom of which the bones of human beings and animals were found. It was 240 ft. deep, and cost one man's life by the breaking of the rope with which he was lowered. Nothing further was explored at this spot, as the accident for ever after deterred others from going there. I descended into several of the lower levels near the body of the cave, and found no termination; in fact, the whole of the mountain and valley is perfectly honeycombed. The main cave is 110 ft. from surface, and has two entrances—one an ancient and probably a natural one, and a new shaft sunk from surface recently. This cave was worked about 40 years ago, prior to the war of 1812. The earth was raised on men's backs, after the old Mexican fashion; and although the labour was so severe, yet the works handsomely paid them, as saltpetre was from 1*s.* 3*d.* to 2*s.* per pound. On the restoration of peace, in 1818, prices fell so low that the works could not be maintained at a working profit, so were abandoned. The cave has remained idle from that time until about 18 months ago, when a German engineer purchased it, and commenced a series of experiments, which proved successful. It is now the property of a New York Company, who purpose to work it on a large scale. The nitrous earths lie on the bottom of the cave from 3 to 10 ft. thick, and in places quite up to the roof: they consist of sand and clay, the sand being at bottom and the clay at top. The clay is much the richest, and where found quite dry freely deflagrates on being thrown on a charcoal fire.

The process of manufacture is very simple and inexpensive; and as to the mining department, it is merely digging the stuff and sending it up the shaft. This earth is impregnated with nitrate of lime, soda, and potash; the clay contains about 10, and the sand 4 per cent.; and as the proportions are two of sand to one of clay, the average yield is about 6 per cent. It is impossible to estimate the quantity, as no one can form any idea of the extent of the cavern, as most of the lateral branches are full; there is enough, however, now in sight to last for a long time, the profits on which will more than quadruple the amount given for the property—$10,000.

The old mode of extracting the nitre was to place the earths in long leeching hoppers, and allow a small stream of water to gradually flow into them. This took a long time, as the clay settling in the bottom of the hoppers prevented the percolation of the water through the mass; consequently, it was several weeks, and much labour beside, in turning over the stuff before the leeching was completed, and even then not more than half the nitrates was extracted. The liquor was then boiled in iron kettles, and a portion of wood-ash ley added, when a strong crude saltpetre was obtained. From what I can learn in the neighbourhood, the average produce was a little over 2 per cent.; consequently, the real value of the earths was never known.

*Northampton, Massachusetts, U.S.*

## ROGERS'S NEW WORK ON IRON MET..LLURGY.*

SECOND NOTICE.

Regarding any one element in any of the compound bodies employed in iron smelting as being identical in its nature with a similar element in any other compound body, our author concludes that from any combination of elements of which iron is one, equally good iron may be obtained; and also that such iron may be made as well with coke, or peat, or stone-coal, as with charcoal. Remove the elements with which the iron may happen to be combined, and iron alone will remain; and similarly of carbon—remove the matters with which it is associated, and carbon is the sole residuum. Then, seeing that the elementary atoms have the inherent property of uniting and forming the various compound bodies, in definite proportions, what is required is, to look at the analyses of these compounds, and see what undesirable atoms have to be operated on and withdrawn by the addition of elements which bring more potent affinities to bear on them than those which bind them to the iron, or the carbon, as the case may be; that so the completest separation may be effected.

Mr. Rogers points to the radical defect existing in the present routine of iron smelting, evinced by the large quantity of fuel made use of; and refers it to the want of fusibility, at the customary temperature of blast-furnaces, of the materials employed; which is, of course, owing to the imperfect adaptation of the means to the end. As a remedy, he proposes, as an auxiliary flux, the use of soda, well known as one of the most powerful fluxes employed in glass-making; to which production furnace cinder presents a close analogy. By the employment of this agent, he states, one-third of the fuel would be saved—(a third of 5,000,000 tons of coal consumed annually in Great Britain in the production of pig-iron!), and a diminished proportion of limestone would also suffice. The third of fuel would be attended with a third of blast rendered unnecessary, or rendered available for extended operations. Of the importance of habitual and careful analyses, and the adjustment of ingredients upon atomic principles in the production of the pig-metal, we are led to a just appreciation by a consideration of the results of the rule-of-thumb mode, as exhibited in the following passages, which we extract:—

"Now, as irons, both red and cold-short, are desirable for certain purposes in the arts and manufactures, the ironmaster ought to be able not only to produce them, but any mixed quality of them, at pleasure; instead of which, he rests satisfied with being told, as though it were irremediable by natural means amply at his disposal, that certain ores yield red-short iron, and others cold-short; hence the custom is, at least in Monmouthshire and South Wales, to mix together in layers his bars of these qualities, in proportions greater or less, in order to obtain a result in which such qualities should be neutralised to some desired extent; that is, according as the finished, or marketable result may be required to be more or less soft, tough, fibrous, or ductile; or hard, firm, strong, and somewhat elastic. But the modes by which these desired medium qualities of iron are obtained are anything but scientific, or economical; for irons of the extreme qualities under consideration, or any gradations of them, are, in mixed piles, very differently operated upon at the high temperature of balling furnaces, or hollow fires, and in contact with atmospheric air, carbonic acid, or any other combination from which oxygen may be easily abstracted; for the soft-iron (*i.e.* the red-short bars in the pile) will, under the circumstances alluded to, oxidate, and consequently waste away much more rapidly than the hard (*i.e.* the cold-short bars), but this is not the worst, or only evil of such modes of proceeding, for the bars in these piles of mixed qualities will never thoroughly unite or weld together, as may be rendered manifest by exposing a clean section of a bar made with these mixed irons to the action of a mixture of dilute sulphuric and muriatic (hydro-chloric) acids; the soft iron will be much more powerfully acted upon by the acids than the hard, and particularly at the junction of the several bars of which the piles were formed: hence, such finished results will be nothing better than a mere mechanical mixture of the two qualities of iron of which the pile may happen to be in the first instance formed; this may, however, for some purposes, be an advantage; but for the majority of uses to which iron is applied, particularly those upon which elaborate smith-work may be required, this stratified iron, as it may be termed, in contradistinction to homogeneousness, will be found of comparatively little value, and would, by the majority of ironsmiths of the country, be termed a "bad iron," owing to its mixed and uncertain nature. Now, the production of finished bars, rails, or other results of the most desired medium quality (that is, homogeneous throughout their whole texture, and neither red-short nor cold short, except, perhaps, the latter in a trifling degree) can never be accomplished except such desired qualities, positively or negatively, as it were, should exist in the pig or cast iron, or some mixture of pigs and cast-iron, upon which it is intended to operate."

* "An Elementary Treatise on Iron Metallurgy, up to the Manufacture of Puddled Bars, built upon the atomic system of philosophy, the elements operated upon being estimated according to Dr. Wollaston's Hydrogen Scale of Equivalents: comprising Suggestions relative to Important Improvements in the Manufacture of Iron and Steel, and the Conduct of Extensive Iron-Works; with Analytical Tables of Iron-making Materials." By SAMUEL BALDWYN ROGERS, of Nant-y-Glo, Monmouthshire. —London: the *Mining Journal* office, 26, Fleet-street.

# Mining Correspondence.

## BRITISH MINES.

**ABBEY CONSOLS.**—J. Trewin, Nov. 23: The lode in the 10, east of the engine-shaft, is yielding about 5 cwts. of lead ore per fm. The lode in the adit level, west of the engine-shaft, has met with no change for the past week, it is still worth from 3 to 4 cwts. of lead ore per fm. The lode in the adit level, west of the eastern shaft, is for the present split. The north, or main branch, is producing a little lead, but not to value. The lode at the eastern shaft is worth 5 cwts. of lead ore per fm. The lode in the rise in the back of the adit is producing a little saving work for lead. The men in the adit level, east of the eastern shaft, are now engaged in cutting through the lode. The stopes in the back of the adit level, east of the rise, are yielding 4 cwts. of lead ore per fathom. No. 1 stopes are worth from 8 to 9 cwts. of lead ore per fm.; and No. 2 stopes are producing 5 cwts. of lead ore per fathom. We have at the store-house about 31 tons of dressed ore, and from 2 to 3 tons undressed on the mine.

**ALFRED CONSOLS.**—M. White, T. Trelease, T. Hocking, Nov. 25: Field's shaft-men are driving north at the 160 to cut the north lode. The north lode in the 140, west of the flookan, is worth for copper ore from 12*l.* to 13*l.* per fm. This lode in the 130, west of cross-cut, is at present rather disordered by a slide, and is now worth for copper ore 16*l.* per fm.; this lode east of cross-cut is worth for copper ore 60*l.* per fm. This lode in the 120, west of cross-cut, is worth for copper ore 45*l.* per fm.; so far as this lode is driven at the different levels it is looking very well. The north lode at the 120, east of Davey's engine-shaft, is just as last reported. The main lode in this level, east of this shaft, is worth for copper ore 30*l.* per fm. The north lode in the 100, east of this shaft, is worth for copper ore 20*l.* per fathom. The main lode in the 110, east of this shaft, is worth for copper ore 20*l.* per fm. This lode in the 110, west of No. 2 winze, is worth for copper ore 50*l.* per fm. All the other parts of the mine are just as for some time past. We sampled yesterday 325 tons.

**ANGARRACK CONSOLS.**—J. Barratt, Nov. 25: Since my last, mining and other operations have been carried on with all possible vigour. Cox's shaftmen have had rather unfavourable ground, by a bed of quartz passing through the shaft, and which let in extra water. The cross-cut end is within 9 feet of the shaft, the deads of the end are now being stocked until a communication with the shaft is effected. Two men have been sinking in the bottom of the adit in Blamey's bunch; the lode is 12 inches wide, producing stones of yellow copper ore, of excellent quality; from appearances it promises to become a good one in depth, it improves as we sink; another week will give it a little more trial, then I shall be able to speak more fully of its value. The masons are getting on as well as possible with the force at present employed, but not so expeditiously as I wish, it is difficult to get masons; however, we shall have the engine-house built and roofed by Chrismas, which is before we expect bad weather in this neighbourhood.

**BALLYVIRGIN.**—R. Pellow, H. Kellaway, D. Macdonald, Nov. 17: We have set a bargain at 7*l.* per fm. to drive west from the bottom of the engine-shaft, for the purpose of cutting the lode. A bargain has been set in No. 1 stope to six men, at 12s. per fm., to take down the lead and copper that has been reserved for some time back in this stope, which is worth 3½ tons of lead and 1 ton of copper ore per fm. No. 2 stope is worth 2 tons of copper, of excellent quality, 15 cwts. of lead, and 6 tons of mundic per fm. A bargain has been set in bottom of the air-shaft to four men, to hole through a piece of ground 7 ft. thick on the course of the lode, at 6*l.* per fm.; this bargain will yield 1½ ton of copper and 1 ton of lead ore per fm. We have put, since last report, about 2½ tons of second crop copper, ½ ton of first crop copper ore, and 15 tons of mundic to pile, besides preparing 5 tons of lead and 3 tons of copper for the crusher. A new floor has been laid down for the buddle for dressing the slime ores. We have raised full 60 tons of ore to surface since the date of last report. This ore is principally mundic from No. 1 stope.

**BALNOON CONSOLS.**—W. Hollow, Nov. 24: The Woola shaft is sinking by nine men under the 56, at 30*l.* per fm.; the ground in this shaft still continues very hard; the lode is scattered in the wetstone, no trace of it is to be seen. The 15, west from Harvey's shaft, is driving by six men, at 7*l.* 10s. per fm.; the ground in this end is hard; as yet we have not intersected the cross lode, but are expecting to do so daily. The 10 south is driving by four men, at 8*l.* per fathom; we have not intersected the branch or lode seen in the stopes below. The foregoing are all the underground operations in the mine at present.

**BEDFORD CONSOLS.**—J. Hodge, Nov. 26: Adit End: The lode here has increased in size since our last to 3½ ft. wide, and likely to be still larger; it is spotted through-out with yellow copper ore, but not sufficient to value, it, however, looks well for an improvement. South Lode: The lode in this end is still large; we have driven by the side of it 4 ft., and took down a part of it only, being rather hard, but so far as can be seen we have a strong kindly lode; at present we have a quantity of small vughs, but I think as these wear out we shall have a more settled lode, and also a productive one. We shall commence the building of engine-house on Monday next. All other work is as before stated.

**BEDFORD UNITED.**—J. Phillips, Nov. 21: The lode in the 148 west is large, and producing some good stones of ore, but not enough to value; we are daily expecting to cut the lode in this level to the east of the slide; the lode having gone down almost perpendicularly from the 130 has thrown the cross-cut longer than it is in the upper levels. The lode in the 130 east is 2 ft. wide, spotted with ore, and has a very promising appearance: a few fathoms more driving in this level will in all probability reach the shoot of ore gone down in the level above. Paull's stopes, in the bottom of the 115 east, will turn out 5 tons of ore per fm.; Huggins's stopes, in the bottom of the same level, will yield from 4 to 5 tons of ore per fm.; and Jeffery's stope, in the back of this level, will produce about 3 tons of ore per fm. The lode in the 115 end west will turn out 2½ tons of good ore per fm.; Warne's stopes, in the back of this level, will yield from 4 to 5 tons of ore per fm. The lode in the 103 west is 2 ft. wide, yielding 2 tons of ore per fm. The rise in the back of the 90 west is put up about 6 fms.: the present price for rising is 11*l.* per fm.; this rise is intended for the new shaft. The cross-cut south, towards the south lodes, in the 47, is being driven in favourable ground. The lode in the 35 east is 2 ft. wide, producing a little ore—tribute ground. The chief part of our old pitches are rather poor at present.

**BODCOLL.**—F. Evans, Nov. 23: The present depth of the new shaft is 5 fms. 3 ft. During the past week we have met with several branches in sinking, containing carbonate of lime, with specks of lead and copper, which induces me to think we are getting near the lode; the clay-slate is a nice colour, and tolerably easy for sinking. In the 10 west, breaking down the lode on the north side, we find the lode large and very promising, and from which we have stones of lead and copper, but nothing very valuable as yet; re-set to drive west, at 5*l.* 10s. per fathom.

**BOILING WELL.**—J. Delbridge, Nov. 21: In the 60 east the lode is 2 feet wide, unproductive; this level is within 1 fm. 5 ft. of being through King's shaft in this level; when this ground is driven we intend rising against the shaft. In the 50 east the lode is 20 in. wide, stones of ore and stones of blende, not much to value. In the 40, east of Austin's, the lode is 20 in. wide, blende, stones of ore, and a little lead. In the 40, west of ditto, the lode is 4 ft. wide, 6 in. of the north part yielding good work for lead. In the 40, 10 fms. west of Austin's shaft, we have driven 2½ fms. south of the former level; we have cut into the main part of the lode; the lode is from 3½ to 4 ft. wide, blende, quartz, lead, and stones of copper ore. We purpose driving west from the cross-cut towards the situation in ground at 40s. per fm. In the 30, east of Austin's lode, the lode is 1 ft. wide, yielding a little lead and stones of ore, at present not much to value. The 20, east of Austin's, tribute ground. In Syrett's shaft, sinking below the 20, the ground is favourable for sinking. In the 20, east of Syrett's, the lode is 1 ft. wide, yielding some good lead and blende ore, at present tribute ground. In the 20, west of ditto, the lode is 2 ft. wide, yielding lead, blende, and peach; from present appearances it is likely to yield some lead ore ground. In a rise in the back of the 30, west of Austin's, the lode is 1 foot wide, yielding blende and lead—tribute ground. We sampled yesterday 15 tons of lead ore, about the former quality.

**BRONFLOYD.**—M. Barbary, Nov. 26: The south lode, in back of the deep adit, is still looking well, and yielding full ⅓ ton of ore per fm. The cross-cut south from the 17, at No. 2 shaft, is proceeding favourably, carrying good strings of ore. The 17, west of No. 2 shaft, on the main part of the north lode, is looking promising, and is yielding saving work. Our surface work is also proceeding favourably.

**BRYNTAIL.**—Jas. Roach, Nov. 26: We can now see the lode in the 10 for 30 feet in width, but the cross-cut has not yet reached the north wall; 9 ft. has been driven into the lode since I last reported on it, in which we found various branches, containing stones of ore. The indications are highly promising, and I have no doubt but that large deposits of ore are connected with it.

**BULLER AND BERTHA.**—J. Hambly, Nov. 25: We are getting on well with the buildings; the boiler-house walls are complete, the stock is more than half up, and the engine-house is up to the head of the loading, and by Saturday week, December 5, I hope the walls will be all up fit for the timbers, &c.

**BWLCH CONSOLS.**—R. Northey, Nov. 23: The 60 west is not looking quite so well for lead for the last two or three days; the lode is 3 ft. wide, worth 8 cwts. per fathom; no alteration in the 60 east to notice. I have suspended No. 1 stope in the back of the 50. No. 2 stope, in back of the 50, is worth 7 cwts. per fm. No. 3 stope, in back of the 50, is worth 9 cwts. per fm. I have commenced to sink a winze in the bottom of the 50. I have also commenced to drive a cross-cut in the 40, as I think a part of the lode is gone off in the north side. No alteration in the 27 west. We are to-day putting the iron launders to bring the stuff down from the top flooring.

**CAMBORNE CONSOLS.**—Wm. Roberts, Nov. 25: In the 20 west the lode is 2 feet wide, producing stones of ore; the same may be said of the 10 and adit levels driving west. We sampled this morning, computed, 21 tons of ore.

**CARADON CONSOLS.**—R. Rich, Nov. 24: During the past week the 38 has been driven north about 7 ft.; there is a small stream of water flowing from the end, and the ground at present is moderate for driving. There is no material alteration in the lode at boundary shaft since last report.

**COLLACOMBE.**—S. Mitchell, Nov. 24: During the last week the 72, west of the western shaft, has been driven 3 ft., and the lode is 4 ft. wide, of a highly promising character, being composed of quartz, prian, and about 1 ton of rich ore per fathom. The 40, west of the western shaft, has been driven 8feet, and the lode is 4 feet wide, worth 1¼ ton per fm. The pitches throughout look well.

**COLLEGE MINES.**—A. Braithwaite, B. Tucker, Nov. 24: The 20 north, on the blue lode, continues to improve; we have driven the cross-cut 6½ fms. The 20 driving north, on the red lode, is the same as last reported; we have driven 3 fms. 1 ft. from the shaft. The 20, driving south, on the red lode, has very much improved, the lode cannot look better; although we are not yet under the lead ground by 5 fms., we have fine stones of lead. The 10 north is poor, the lode is from 9 to 10 in. wide. The 10 south is a very kindly-looking lode, with nne stones of lead; there are more branches of lead running towards the footwall, where we hope to meet with a bunch of lead. Copeman's winze is down 6 fms. 2 ft.; no alteration in its appearance since last reported. The tributers continue to get fair wages.

**CROSSGILL HEAD.**—G. Millican, Nov. 21: This mine has continued to be developed as usual, and the contract for driving 40 fms. in the level has been completed, since which the men have been sinking the sump in the scar limestone, at 6*l.* per fm., where indications of the probability of meeting with ore have shown themselves. A new vein has been discovered called the Road vein, which two men have opened on to the east about 6 fms., and the vein has produced 11 binge 2 cwts. of lead ore, which was sold at Alston at 5*l.* 12s. per bing, and it is said to be the finest sample of ore ever delivered there. Two men are also opening on the drift to the west in the Road vein, which is yielding about 4 or 5 cwts. of ore to the fm. The men are driving the drift at 3*l.* per fm. each way. Two persons are dressing ore.—[The mine was visited by the secretary and two of the shareholders on Oct. 17. The new Road vein was then 6 ft. high, varying from 8 to 12 in. in width, and lead ore was visible at intervening spaces from roof to sole. If the mine be worked with vigour, there is now every prospect of having a good and paying mine.—Wm. Clayton, sec.]

**CWM SEBON.**—J. Boundy, Nov. 21: The ground at the engine-shaft is getting much harder for sinking, the lode is still large, and without any particular alteration in appearance since my last. The lode in the 60 west, for the last 2 or 3 fms. driving, has been split up into branches, they are now coming together again—forming a junction; at present the lode has a promising appearance. No lode has been taken down in the 50 cross-cut during the week, but we intend to do so next week. All other bargains throughout the mine are without change to notice. The men are pushing on with the air-shaft, which shall be got ready as soon as possible. The carpenters are now engaged in putting the new mill together, and every exertion will be used to get it ready as soon as possible. Our dressing is slowly progressing in consequence of the dry weather, not having sufficient water for crushing purposes.

**DAREN.**—John Humphreys, Nov. 23: Francis Level: We have now driven far enough west, and shall commence to rise on the lode, which carries a little ore, up to the 20 fathom level of the old mine. Two pitches were set last week, and in one of them the tributers are doing very well for themselves and the proprietors. The dressers are busily engaged with the waste heap.

**DEVON AND CORNWALL UNITED.**—T. Neill, Nov. 24: In the 40 there is no change to notice. The cross-cut south in Bastard's level still continues in favourable ground. In the stope in the back of Bastard's level, west of rise, the lode is 8 ft. wide, worth 8 tons of ore per fm.—Midway Level: In the end driving west, on the north lode, the lode is 7 ft. wide, worth 8 tons of ore per fm.; driving east, on this lode, it is 6 ft. wide, worth 3 tons of ore per fm. In the eastern rise, in the back of this level, on the south lode, it is 6 ft. wide, worth 4 tons of ore per fm. In the western rise, in the back of this level, the lode is 12 ft. wide, worth 10 tons of good ore per fm.—Middle Level: The lode in the eastern level is worth 1 ton of ore per fm. We have not as yet discovered anything in the two cross-cuts in this level. In the winze in the bottom of this level the lode is 3 ft. wide, worth 2 tons of ore per fm. At William and Mary, there is no alteration since last report.

**DEVON BULLER.**—W. Neill, Nov. 26: There is no alteration since my last report, with the exception of the 44 end west, where the lode is much larger, and much the same character as before, spar, capel, white iron, mundic, and spots of copper ore.

**DEVON BURRA BURRA.**—J. Spargo, Nov. 26: I am glad to find that we had yesterday cut down much of the water in the Gate-post shaft, as well as finding the lode in the eastern end in the 40 looking much better, carrying a beautiful smooth wall, and the ground very soft for driving on the south part of the lode. It is very likely we shall drive from 8 to 10 fms. the next month, and it is also very probable that we shall let down the whole of the water in the Gate-post shaft before the end of the month. The lode is composed of gossan and spots of copper, and I have no doubt it will improve on the east side of the cross-course.

**DOLWEN.**—F. Evans, Nov. 23: A great portion of the line of rods is finished; we have some work to do at the shaft, putting down lift, &c., before we can begin to work permanently.

**DRAKE WALLS.**—T. Gregory: Betteley's shaftmen are engaged putting in launders in the 70, west of Matthews's, taking up water, and making necessary preparations preparatory to sinking below the 90. The branches in the 90, east of said shaft, are producing occasionally saving work. Branches in the 92, east and west of Matthews's shaft, are producing coarse work, intermixed with wolfram and mundic. We have a little improvement in the 80, east of Matthews's, and the ground of a more favourable character. The 70 and 60 are producing saving work. We have no change to notice in the different stopes since last report. The 70 cross-cut north progresses satisfactorily. The different fissures and joints in the killas are faced with copper ores, which look very promising for a productive lode. On the north lode, in deep adit, the same encouraging appearance; and we have every confidence, when the same becomes fully developed, that the result will be satisfactory. Brenton's crusher has been under repairs for some days, and we find it requires new chain, centre piece, &c. On the arrival of the castings we purpose to put the whole in a good state of repair, which is immediately required.

**EAST ALFRED CONSOLS.**—Hy. Skewes, Nov. 26: We have commenced sinking Painter's engine-shaft under the 15—ground favourable for sinking. The cross-cut south in the 15 is still driving through unsettled ground. The cross-cut north in the 15 has the appearance of being near the lode—producing greens, mundic, &c. Our sampling on Tuesday last was 56 tons of good quality ore. The western winze is worth 20*l.* per fm.; sunk 3 fms. under the adit level. The stopes in back of the adit are looking well. The south lode is just the same as when last reported.

**EAST CARN BREA.**—Thos. Glanville, Nov. 25: Saturday last being our monthly setting, we set the following bargains:—The engine-shaft to sink under the 15 by six men, at 23*l.* per fm. The adit level to drive east by two men, at 4*l.* per fathom. The new engine-shaft is down 12 fms. from surface. We have commenced building the engine-house, and hope to have it complete in six weeks.

**EAST FRONGOCH.**—Thos. Pascoe, Nov. 25: During the past fortnight, or since setting-day, our sinking has been very much retarded, in consequence of the breaking of the cheek of the main sweep-rod; but this being not all, on Friday morning last we unfortunately broke three holes of the flange of the doorpiece of the sinking-lift, but it is again all right, and the men are going on with the sinking. The ground at the shaft is very hard, and the water is very much increased; consequently, in case of breakages, we cannot make that progress in forking as hitherto.

**EAST HENDER.**—N. Clymo, Nov. 24: We have taken down the lode, and find it looking very promising, at present producing good stones of copper ore; it is still about 3 feet wide at the bottom of the shaft, and we think the ground is opening up better. In the western shaft the lode is looking most kindly; it is about 8 in. wide, containing mundic and rich stones of black ore. We shall take down the lode again next week, and expect to report more favourable results.

**EAST ROSEWARNE.**—J. Delbridge, J. James, Nov. 21: On Thursday we went into a calculation of our present ore for sampling on Tuesday next, and we find it to be about 50 tons. We also made an estimate for the two months to come: from present prospects, we calculate upon about the same quantity—50 tons; to do this we must use every effort. The engine-shaft is sunk 10 fms. below the 22; the ground is more favourable in the east end of the shaft, in good killas; we think 12 feet more will be free of the elvan course; the lode in the killas is yielding good stones of ore, the lode is from 2½ to 3 ft. wide. In the 22 east, on the engine lode, the lode is 9 in. wide, but not to value. In the 22 west the lode is small and poor. In the 22 east, on the north lode, the lode is from 12 to 15 inches wide, yielding some good black and yellow copper ore. In the 22 west, on the same lode, the lode is split into two parts, each yielding a little ore, but not to value. In the winze sinking from the 12 to the 22 the lode is 12 inches wide, composed of quartz and stones of copper ore. In the No. 1 winze the lode is 6 in. wide, yielding some good copper ore; at present the lode is disordered by a floor of hard ground. In the 12 east the lode is small and unproductive. In the 6 end the lode is yielding a little ore, not much to value. In the adit and cross-cut no appearance of any lode. In sinking the west shaft the ground is favourable. As we before stated, when we sink below the elvan course in the engine-shaft, we intend fixing a lift, which will be under the bulk of the water; there we purpose fixing a 14-in. lift with 15-in. pumps. We have a windbore, door-piece, and working barrel, in the mine; we shall want 9 fathoms of 15-inch pumps for the standing-lift to sink with the present. In future the cost of the pumps will be 35*l.*—we have rods and box here.

**EAST TAMAR CONSOLS.**—G. E. Tremayne, Nov. 24: The lode in the engine-shaft is about 2 ft. wide, composed principally of fluor and horn-spar, worth about 8 cwts. of lead per fm. At present we have a hard floor of capel in the shaft, which impedes our progress in sinking, but have no doubt it will soon wear out again. In the 30 end, driving south, the lode is 3 ft. wide, composed of fluor-spar, and will produce 10 cwts. of lead per fm.; north in this level the lode is 2 feet wide, with horn and fluor-spar, and worth 7 cwts. of lead per fm., with great promise of further improvement. In the 20 north the lode is 2 ft. wide, composed of horn and fluor-spar, and worth 5 cwts. of lead per fm. The lode in the adit level, driving north, is 2½ ft. wide, principally composed of capel and a little fluor-spar, producing 10 cwts. of rich lead ore per fm. Our whim-engine was put to work last week, and up to the present time continues to work exceedingly well. The grinder will be ready to work in a few days, after which we shall have a parcel of lead ore for the market.

**EAST WHEAL FALMOUTH.**—W. Burrows, Nov. 25: The shaftmen are still engaged in driving the cross-cut in the 30, but have not yet intersected the east lode. Since I last reported I have placed the 20 end men to put in a cross-cut to intersect Chennall's lode in the 20, and after driving 9 feet west they cut the lode—rich, worth 3 tons of lead ore per fm., and is continuing very good. Deeble's stopes, in back of the 20, are worth 1 ton of lead ore per fm.; those stopes are laying open a fine piece of ore ground, and promise to be of considerable value for a long time. Chennall's stopes, in bottom of the 10, are just as last reported—worth 3 tons of lead ore per fm.

**EAST WHEAL RUSSELL.**—John Goldsworthy, Nov. 26: There is no change to notice in the 88 since last report. The lode in the 66, east end, is not quite as orey as last reported; the lode has been a little more disordered. The stopes east of Williams's winze are as last reported, worth 3 tons of good ore per fm. We have stripped down some of the lode in the stopes west of Williams's winze, which produce some good ore: we have done but little on the lode in this stope, being obliged to put in some large timber, the ground being heavy. The tribute pitch in bottom of the 55 is as last reported, worth from 2 to 2½ tons per fm.

**EXMOUTH.**—Jas. Hampton, Wm. Skewis, M. Faull, Nov. 25: In the 60, driving north, the lode is 3 feet wide, worth about ½ ton per fathom; the rise in back of this level is of the same quality; the cross-cut (being driven west) is in good ground, which is impregnated with lead. The 40, driving north on the east lode, is without any alteration to notice; the north end in same level, on quartzose lode, is worth from 8 to 10 cwts. of lead ore per fm.; the various stopes in back of this level are producing from 10 cwts. to 1 ton per fm. The 30 north is worth about ¼ ton of ore per fm., and also the stopes in back of this level; the winze sinking below this level, on the western lode, is worth about 15 cwts. per fathom. The 20, driving north on Hampton's branch, is worth about 5 cwts. per fm.; the south end in same level is a little improved for lead, and we still encourage a hope that ere long we shall be rewarded with more success at this point. The rise in back of the adit is at present worth from 5 to 8 cwts. of lead ore per fm.

**FRANK MILLS.**—J. P. Nichols, Nov. 24: The west lode in the 84 north is 3½ ft. wide, producing 5 cwts. of lead per fm. In the 84 south-west the lode is 2 ft. wide, containing spots of lead, but not sufficient to value. Wood's stope, in back of the 84, is producing 6 cwts. of lead per fm. In the 84 north-east the lode is 5 ft. wide, chiefly barytes, occasionally producing a little saving work. In the 72 north-east the lode in the end is at present smaller than usual, and unproductive. Cole's stope, in the back of the 72 north, is worth 12 cwts. of lead per fm. In the 60 north-east the lode over the stope is at present producing from 6 to 7 cwts. per fm. Strike's winze, in bottom of 60 south on east lode, is worth 8 cwts. of lead per fm. I hope to communicate this winze and rise in the back of the 72 by the end of the present month, which will lay open a large piece of ground, to be worked at a moderate tribute. In the 45 end south, on east lode, the lode is from 3 to 4 ft. wide, chiefly gossan and barytes, occasionally producing large stones of lead, a very kindly lode. We have five tribute pitches working at tributes varying from 4*l.* 4s. to 6*l.* 10s. per ton. Our next sampling will be from 40 to 45 tons of lead, and should the mine continue to improve as it has done during the past month our sampling will soon considerably increase. The mine throughout, with all the machinery, is in perfect working order.

**GAWTON COPPER.**—J. Gill, Nov. 25: There is no alteration in any part of the mine to notice this week. I shall send you a detailed report for the meeting.

**GREAT CARADON.**—J. T. Penprase, Nov. 20: The men are engaged in backing the lodes to the west towards Tokenbury Mine. There are nine lodes now laid open, all of a beautiful appearance, composed of gossan, mundic, soft spar, and spots of copper ore. We have found No. 1 lode to the west of our boundry, near the Tokenbury Mine, of the same promising appearance as the other lodes.

— Nov. 25: Our lode is still coming better, the bunches have come together and form a champion lode, which will no doubt prove very valuable.

**GREAT SHEBA CONSOLS.**—J. Spargo, Nov. 24: We have cut through the cross-course on the 10 (below adit) driving east, and have again discovered the lode, it is producing some good work for copper, and has every appearance of improving as we get off the cross-course. The shaft is now sunk from surface about 25 fms. (15 below adit), and we have now intersected the same cross-course that we cut through in the 10 in the bottom of the shaft. We are still sinking on the north wall of the lode, which we have not cut through, nor shall we do so until we get 5 fms. deeper, when we intend to cut plat and prove its value. The shaft is sinking without pitwork, as there is but little or no water to be seen, and, judging from the appearance of the lode cut through in the 10, from which we are now dressing ore, I have every reason to believe that at the 20 we shall cut into a good orey lode of a superior quality. We have an improvement in the lode in the back of the 40, and as far as I can now see it is likely to continue under the 40. All other parts the mine are without alteration. We shall sample on Friday next from 130 to 140 tons.

**GREAT SOUTH TOLGUS.**—John Daw, Nov. 25: The lode in the 80, west of new shaft, is 1½ foot wide, producing stones of copper ore, but not enough to value. At shaft, is 1½ foot wide, producing stones of copper ore, but not enough to value. At the engine-shaft sinking below the 70 the lode is 1½ foot wide, producing 1 ton per fm. In the winze sinking below the 60 the lode is much the same as reported last—producing 7 tons per fm. In the 60, on the south part, the lode is 1 foot wide, producing 1 ton per fm. In the 40 the lode is 1½ ft. wide, producing 3 tons per fm.

**GREAT TREGUNE CONSOLS.**—J. Spargo, Nov. 25: In consequence of our cutting ground at bottom of perpendicular to fix feed-off bob, we are obliged to sollar over the shaft, therefore there will be no working in the 60 or 40 fm. levels this week. The lode in the 60, west of Hobler's shaft, is still holding good. The men have not done anything in the 60 since Saturday, by reason of the above work going on; but I am happy to say on Saturday we took down the lode, and broke some fine rocks of ore, equal to those sent to London. Our floors are now occupied with some fine piles of ore now in course of dressing, and if the lode continues as at present, which I have reasons to believe, it will improve both in size and quality. In a short period we shall considerably augment our samplings. The lode in the winze in the 40 is looking better, and appears to be getting down in the same bunch of ore we are driving on in the 60; the bottom of the winze is about 12 fms. above the 60, and is coming down just over the present end; when this is done it will not only ventilate, but will throw open ore ground that will ultimately be taken away for market. We are preparing to sink under the 60 with all possible speed.

**GREAT WHEAL ALFRED.**—M. W. Michell, W. Bugelhole, W. Arthur, Nov. 21: The lode in the 180, west of Copper House shaft, is 6 ft. wide, worth 7*l.* per fm. In the 170, west of the above shaft, we are carrying from 2 to 3 ft. of the lode, which is producing saving work. We have no south wall, but intend to cross-cut to see it a fathom or two further west. The lode in the 160 east, on the south part, is worth 30*l.* per fm.; this level west is worth 16*l.* per fm. No change in either of the cross-cuts north or south in this level. The lode in the 148, west of Copper House shaft, is 18 in. wide, carrying a small branch of good ore on the south part of it. No change in any other part of the mine.

**GREAT WHEAL BADDERN.**—J. Jenkin, Nov. 24: The 61 end, east of eastern engine-shaft, is hard for driving, lode 6 in. wide, rather poor. In the stopes in the bottom of the 51, east of No. 4 winze, the lode is 18 in. wide, producing about 2 tons of lead ore per fm. In the stopes in the bottom of the 51, west of No. 4 winze, the lode is 15 in. wide, yielding about ⅓ ton per fm. In No. 5 winze, in the bottom of the 51, the lode is 15 in. wide, turning out 1¼ ton per fathom. In the 51 end, east of No. 5 winze, the lode is 8 in. wide, producing lead ore. All the other departments throughout the mine are without alteration.

**GREAT WHEAL BUSY.**—J. B. Pascoe, Nov. 21: We attached our balance-bob in the 50 to the main rod at Harvey's engine-shaft on Thursday last; our pitwork is now quite secure. We shall now clear the timber at the shaft, and put in the bearers to carry the cistern and our third plunger-lift. All other work is progressing favourably. We are full of ore in every level, and shall now begin to draw up and dress. Our 10 tons of tin will be ready by Tuesday next.

**GREAT WHEAL VOR.**—M. Wm. Martyn, Nov. 18: Wheal Vor: The pumping-engines, after some stoppages in changing a plunger-pole in the 164, and other repairs, and dropping lifts in Trelawny's shaft, are working well. The steam-whim engines have worked well, except Bounder, which had been prevented drawing stuff by a slight accident—now repaired. The steam-stamps have been working irregular, and required repairs, but are now doing better. At Crease's shaft, the water is in fork to the bottom of the drop-lift, or to the 236. At Trelawny's shaft, the water is drained to within 2 ft. 6 in. of the bottom of the 236. There is a difference of 13 ft. in depth between the 236 at Trelawny's and Crease's shafts (though nominally called the same, or 236 fathom level), occasioned by the level being driven from Trelawny's towards Crease's, and the rise of the same to admit of the water being conveyed to Trelawny's, the deepest point from Crease's. There being no communication between Crease's shaft, prevents the water in this shaft from being drained by Trelawny's engine, whilst at Bounder shaft the water is being drained by Trelawny's engine, a communication having been made in the 248, between these two last-mentioned shafts. The 248 is to Crease's main rod in the 174. Trelawny's shaftmen expected to drop the lifts on Wednesday to the 248.—Main Lode: The lode in the winze and stopes below the 194 is worth 30*l.* per fm.—Wheal Metal: The sinking of the engine-shaft has progressed favourably during the past week.—Schneider's Lode: John's shaft will be completed by the end of the month to the 70; the ends and stopes on this lode are fully equal in value to what they were when last reported. We have sent to smelting-house, to-day, about 50 tons of tin.

**GWYDYR PARK CONSOLS.**—H. Rawson, Nov. 26: In driving west on the Cross Mawr level, an improvement has taken place; the lode is 3 ft. wide, intermixed with spar and lead almost through the whole width of the present end, but the ground is rather hard and wet; I expect the lode will form into a proper size in a few yards further driving. I think we are not far from the junction of the Gorse lode.

**HAWKMOOR.**—Captain Richards, Nov. 24: The eastern shaft is sunk 9 fms. 3 ft. below the 50; the lode in the bottom of the shaft is 3 ft. wide, of a very promising character; in fact, it is composed of everything we can expect for the production of copper. The 50, west of the cross-course, has been extended west 2 fms. 4 ft.; the lode is 2 ft. 6 in. wide, carrying a good leader of copper ore on the south part of it, and looks well for improvement as we leave the cross-course. The stopes in the back of the 40 are suspended for a time, and a winze will be sunk in the bottom, which will give good ventilation to the shaft and the 50 fm. level: I have set this winze on tribute for two months, at 12s. in 1*l.*, to be carried 15 ft. long. We are forcing on the adit end at West Hawkmoor as fast as we can.

**HINGSTON DOWN CONSOLS.**—W. Richards, Nov. 25: The lode in Morris's shaft is spotted with ore, and promising to be productive in depth. The same remark will apply to Doidge's winze. The 100 west, I am glad to say, produces very good stones of ore, and is otherwise promising. The 100 east is without material alteration, as also the 85 east. In the 75 the lode continues large, and equally as promising as in last week's report. In the 65 the lode has improved during the past week, and may be valued at 2 tons of good ore per fm. The lode in the 55 is large, spotted with ore, and promising to improve. Other points of operation without change of importance.

**HOLMBUSH.**—In the 145 west the lode continues small, although the ground is apparently very congenial for copper ore; in the end driving east in this level, on the south part of the lode, the lode is inclining fast towards the north part, from which I infer that it is a branch split off from the main part of the lode a few fathoms further east. The lode in the end west, on the new copper branch in the 148, appears to be improving, and, although not taken down, presents indications of yielding 1 ton of ore per fm. In the 145, on the lead lode, the men are driving by the side of the lode, which appears to be very large, producing abundance of fluor-spar, mixed with good stones of lead ore. In the east the lode is producing 1½ ton of ore per fm. The men will be put to sink a winze in the bottom of the 145, west of diagonal shaft. The lode in the stope in the back of this level will yield 1½ ton of ore per fm. In the 160, west of diagonal shaft, a small cross-course has been met with and cut through; the lode to the west of it will produce 1½ ton of rich ore per fm. The lode in the rise in the back of this level will also produce 1½ ton per fm. for the length of the rise. In no other part of the mine is there any change of importance from last week. The repairs of the second boiler at Hitchins's engine is nearly complete; it will be set to work again this week. No hindrance has occurred to the pumping of the water during the repair of the boilers.

**KELLY BRAY.**—S. James, Nov. 21: The lode in the 125 east is somewhat improved in character, being now 2½ feet wide, composed of quartz, mundic, and stones of ore, but not enough to value. The lode in the pitch in back of the 115 west is still looking well, worth 20*l.* per fathom. The pitch in the back of the 85 west is not looking so well as it has for some time past. The lode in the 45 end west is still large, and has the same kindly appearance as it had for the last several fathoms in driving, composed of quartz, mica, mundic, and stones of ore. The lode in the winze sinking in the bottom of the 35 west, about 9 fms. in advance of the 45 end west, is 2½ feet wide, and worth 20*l.* per fathom. The lode in the rise in back of the above-named level is poor at present; here we hope to make the communication with the 25 in a day or two from this date, after which we shall have a full supply of air to carry out our operations in the 35—to resume the driving of the end west. The operations at the eastern mine are going on satisfactorily, and hope to complete the work named in my last by end of the present month. The tributers are working well, and our sampling will be above 100 tons for November month, and four weeks without falling back on our reserves.

**KESWICK.**—J. Postlethwaite, Nov. 21: We have a little improvement in the 50 north, the lode being now worth 18 cwts. of ore per fathom; the rise is this level will yield 10 cwts. of ore per fathom. In the 50 south the lode is worth 10 cwts. of ore per fathom. In the 40 north the lode will produce 10 cwts. of ore per fm.; in this level we have the following stopes:—No. 1, worth 10 cwts; No. 2, 12 cwts.; and No. 3, 8 cwts. of ore per fm. The stope in the 40 south is worth 10 cwts. of ore per fm. In the 30 north the stopes are as follows:—No. 1, 10 cwts.; No. 2, 20 cwts.; No. 3, 8 cwts.; No. 4, 5 cwts.; and No. 6, 10 cwts. of ore per fm.

**LADY BERTHA.**—J. Metherell, Nov. 19: In the western end in the 20 the lode is 4 ft. wide, and worth full 2 tons of ore per fm. In the eastern end in the same level the lode is 4 ft. wide, and worth full 2 tons of ore per fm. In the eastern end, same level, the lode is 2½ ft. wide, worth 3½ tons of good ore per fm. Robin's winze, in the bottom of the same level, west of Moyle's shaft, is worth 1¼ ton of ore per fm. Lamin's pitch, in the back of the same level, is worth 3 tons of ore per fm. Having cut through the lode in the cross-cut in the 30, which is about 11 feet wide, we have commenced to drive east and west on the south part, in which we have some small strings of ore.

— J. Metherell, Nov. 26: We have commenced to sink Moyle's engine-shaft for a 40 fm. level. Nothing new in the 30 east and west. The lode in the western end in the 20 has very much improved, which is 5 ft. wide, and worth 5 tons of ore per fm. No lode taken down in Robin's winze this past week. The eastern end in the 20 is now worth about 2 tons of ore per fm. Lamin's pitch, in the back of the same level, is not so good, still in places there is a good branch of ore. Nothing else new.

**MOLLAND.**—T. Bennetts, Nov. 25: Very little work has been done underground during the past week, in consequence of nearly all our force being required at surface, in order that we may get the engine to work as soon as possible. The masons have built in one of the bob-stands, and the other will be commenced either this afternoon or to-morrow. The shears are hoisted, and the capstan is in course of erection, so that I hope we shall commence fixing the pitwork the latter part of this week. The engineers will, I expect, have finished their work by Saturday next, and probably we shall be ready to work in a rough state the following Monday or Tuesday: I think I those that are required to work late at night do so.

**NANTEOS AND PENRHIW.**—H. Boundy, Nov. 21: Since last report the lode in the 20 east has very much improved, being now 2 ft. wide, yielding good stones of ore. The 20 west continues to improve, and is looking very promising for a good bunch of ore In the 10 west the lode contains a small mixture of ore, but not to value. The stopes throughout the mine continue to yield their usual average of ore, with the exception of one in the back of the 30, which is not looking quite so well as it has been since last report; I have put two men to drive the 36 east during the week in this level, where we have cut a good branch of ore. The Eystumtean part is much the same as has been reported for some time past. All our surface operations are going on very well.

**NEW TRELEIGH CONSOLS.**—J. Prince, Nov. 25: The ground at Carr's engine-shaft continues stiff for sinking. We unfortunately broke the windbore of the sinking-lift last night; but this will speedily be replaced by another, after which we purpose cutting ground for bearers and cistern, to fix a plunger-lift of larger size than

our present drawing-lifts, and this we have among our spare materials on the mine. In the 50, west of Carr's, we have, we believe, cut a limb of the caunter lode. We have ordered the men driving the end to take down the side of the level to-day; so we shall soon ascertain what it is. The main lode, which is keeping its regular course, is at present disordered by this oblique vein or lode. A part of the lode in the 50 end east was taken down yesterday; it produces good stones of yellow copper ore, mixed with mundic and blende—a promising lode. The lode in the 40 winze is from 18 in. to 2 ft. wide, yielding some good copper ore work; but, judging from the quantity of water issuing from it, we fear we shall not be able to sink it deeper, to advantage, until the caunter, before described, is cut through, and the end on the main lode be brought under it to drain the ground. In the 40 west we have met with another flookan, which is about 2 ft. wide, and the end at present is in hard quartz, traversed by small veins of mundic, spotted with copper ore. The water has considerably increased, but the engine can easily keep it down, even with the present size pitwork.

NETHER HEARTH.—W. Vipond, Nov. 21: The stopes have improved this week, and are now looking very well. We have 6 tons of ore ready for another sale.

NEW WHEAL VOR AND EAST WHEAL METAL.—Joseph Vivian, N. Thomas, Nov. 21: Since our report of Nov. 7, everything here has gone on to our entire satisfaction. Our engine commenced working on Nov. 12, and has continued to work as well as could be desired: in short, no machine could do better. We recommenced sinking the engine-shaft on the great north lode on Monday last, and to-day we have let 10 fms. to sink, at 12*l.* per fm.; for facility of sinking we shall carry the shaft in the country for a couple of fathoms or so before we take down the lode, which continues of a most promising character. We intimated in our last that, from the appearance of the lode in our eastern adit end, on the Wheal Metal lode, we anticipated some improvement; we have now the gratification of saying that in this respect we have not been disappointed: the end is producing splendid stones of tin, in confirmation of which it will be sufficient to state that yesterday we assayed a parcel of tinstuff from the present end, which resulted in a produce of 34 cwts. of tin per 100 sacks, at the present price of tin is worth 120*l.* per 100 sacks; we shall push on this end with all possible dispatch; we are now driving it with four men, at 4*l.* per fm., and 3s. in 1*l.* tribute for tin. We shall commence stoping the back, some fathoms behind the present end, in about a week, and which we expect will produce tinstuff of a moderate quality. We should here remark that the metal itself is of the first-class, the assays which we have made producing 14 parts of tin in 20. We shall shortly have to recommend the erection of a steam-engine on this part of your property, as everything tends to convince us you are on the eve of opening up a great mine here. Wheal Bramble lode continues its size, and is tinny, but not to value. In the Park-an-etep adit within the last fortnight we have got forth 63 fms., and have again met with a shaft sunk by the ancients, which we shall have to spill through. On the Penpraze lode we have made the shaft good to the adit level, and are again in a situation to make the adit good east. The ancients must doubtlessly have found large quantities of tin on this lode, as they have worked it away to a considerable extent; how far we cannot yet say, but we continue to meet with fine stones of tin in the attle, which is decidedly indicative of the former richness of this part of your property.

NORTH BASSET.—T. Glanville, Nov. 20: The following is the tutwork setting:—The 122 to drive west of the flat-rod shaft by four men, at 7*l.* per fm.; the 122 cross-cut to drive south of flat-rod shaft by six men, at 12*l.* per fm. The 102 to drive west of Lyle's shaft by six men, at 14*l.* per fathom. The 82 to drive west of Lyle's shaft by six men, at 3*l.* per fm.; lode producing 2 tons of ore per fm. Grace's shaft to sink under the 72 by nine men, at 20*l.* per fm.; lode producing 2 tons of ore per fathom. The 72 to drive west of Grace's shaft by six men, at 10*l.* 10s. per fm. The 62 to drive west of Grace's shaft by six men, at 11*l.* 10s. per fm. The 52 cross-cut to drive north of Grace's shaft by six men, at 12*l.* per fm.; the 52 to drive west of Grace's shaft, on the south lode, at 5*l.* per fm.; the 52 to drive west of Grace's shaft, on the flat lode, by six men, at 7*l.* 10s. per fm. The 42 to drive west of Grace's shaft, on the south lode, by four men, at 6*l.* per fm. The 32 to drive west of Grace's shaft by four men, at 4*l.* 10s. per fm. The 42 to drive west of Grace's shaft, on the flat lode, by four men, at 6*l.* per fathom. The winze to sink under the 52, on the flat lode, by four men, at 10*l.* 10s. per fm. The winze to sink under the 72 by six men, at 8*l.* 10s. per fm.; lode producing 2 tons of ore per fm. The rise in back of the 32 by six men, at 12*l.* per fm. The 72 to drive east of Miner's shaft by two men, at 7*l.* 10s. per fm.; the 72 cross-cut to drive north of Miner's shaft by four men, at 6*l.* 10s. per fathom. The new shaft to sink by six men, at 7*l.* 10s. per fm.

— Nov. 25: Our sampling to-day will be about 300 tons of copper ore.

NORTH BULLER.—T. Glanville, Nov. 23: In the 78 cross-cut, south of Louisa engine-shaft, we have cut into a lode about 2 ft., but no appearance of the south wall; it is composed of capel and mundic. The engine is now working about 6¼ stokes per minute. I will write you again in a few days.

NORTH DOWNS.—W. Johns, J. Grenfell, Nov. 24: We have driven a cross-cut south on the cross branch, east of the engine-shaft, about 7 feet, and intersected a branch of rich yellow ore, worth 8*l.* per fm. as far as opened on, and looking kindly for a continuance. The lode in the 30, west of the same shaft, is very regular, about 2ft. wide, letting out an increase of water, and very likely to produce copper shortly. The winze sinking below the 20, east of engine-shaft, is yielding good stones of copper ore. In the 20, east of Bennett's shaft, and in the 10 cross-cut south, towards Coal Yard lode, there is no alteration since last reported. The rise in the back of the deep adit is well ventilated, and will be soon communicated to the former workers' bottoms, and most probably will open tribute ground. Our copper sampling this day is computed to be 33 tons.

NORTH FRANCES.—P. Hosking, Nov. 21: The lode in the 48, east of Eales's shaft, is 4 ft. wide, with a little yellow ore, but not to value. The lode in the 48, west of Eales's shaft, is 2 ft. wide, worth 10*l.* per fm. for tin, which is a good indication for ore in the adjoining mines. We have sunk Eales's shaft 2 fms. 4 ft. under the 48. The lode in the 36 is 2 ft. wide, with a little ore, but not to value. The tribute ground is much the same.

NORTH GREAT TRELETHER.—W. Buckthought, captain of Trelwer Iron Mine, Nov. 24: I am quite pleased with what I have seen. In No. 2 level a branch of grey ore mixed with malleable ore, being 6 in. or more in width, has been passed through for several fathoms, and the appearance of the lode generally warrants a spirited prosecution, which I trust it will get.

NORTH TAVY.—R. Williams, Nov. 26: The prospects here are without change. We are preparing to assay a lot of samples from the tin lode in the 20 and 30, in a systematic manner, of which the results will be given in our next.

NORTH WHEAL ROBERT.—J. Richards, Nov. 26: Murchison's Engine-Shaft: In the 62 fm. level west the lode is without ore; it is, however, promising, and the ground is become easier for progress. In the 52 fm. level west the lode, although not worth more than ½ ton of ore per fm., is very promising, containing quartz, capel, mundic, and ore; the ground is also very easy for progress. In the 42 fathom level west the lode is unproductive. In the 30 fm. level west, and to the west of the cross-course, the lode contains capel, mundic, quartz, and good stones of ore.—Trial Shaft: A new or boundary winze is being sunk below the 42 fm. level west; the lode is 2 ft. wide, worth ½ ton of ore per fm. In the 30 fm. level east the part of the lode being carried is composed of quartz, mundic, capel, and a little ore. A portion of the lode is still standing to the south, which will be cut into by means of a cross-cut in that direction. We shall sample to-morrow about 110 tons of copper ore.

PEDN AN-DREA.—Capts. Carpenter, Delbridge, Thomas, Nov. 21: In the 90, east of engine-shaft on Martin's lode, we have stoped that part of the lode which we left to the north as it ran east as the junction of granite. At this point there is a lode from 4 to 5 ft. wide, of a very promising character, going through the hard granite, composed of soft spar, peach, mica, and good stones of tin, and letting out a quantity of water towards the bottom of the end; set yesterday 3 fms. at 4*l.* per fm. for driving. We have not seen enough of it to report its value. The stope in the back of the 90, behind this end, is worth from 60*l.* to 70*l.* per fm. The ground continues hard for driving south through the lode to get under the 80 winze. We have cleared the cross-cut in the 55, east from engine-shaft towards Wheal Sparnon, and put two men to drive; set at 2*l.* pe fm. We are progressing as fast as possible with the bob-plat in the 66, and with Cobler's and Bragg's shafts. Our tribute pitches throughout the mine are yielding much of the same average of tinstuff as for the last two months.

PEMBROKE AND EAST CRINNIS.—J. Dale, G. T. Trewren, Nov. 24: In the 162 cross-cut, south from Reid's shaft, we have driven 3½ ft. during the past week. In the north cross-cut in this level the ground is still favourable; we have driven 6 ft. during the past wee. In the 112, east from Smith's shaft, no lode has been taken down since last repot, we are at present driving at the side of it in killas. In the 102, east from Smith shaft, no lode has been taken down during the past week, we intend doing so in the course of a day or two, when we shall be able to give you its value; the lode in the stopes in the back of this level, east from the winze, will produce 2½ tons of ore pr fm., of fair quality; the stopes in the back of the same level, west from the winze, will produce 1½ ton of ore per fm.; in the winze sinking in the bottom of this level the lode is worth 1 ton of ore per fm. In the winze sinking in the bottom of the 9 east the lode will yield 1½ ton of ore per fm. Our tribute pitches throughout the mine are without change to notice.

PENCORSE CONSOS.—H. B. Grose, Nov. 23: The lode in the end of the 50, west of Retallack's shaft is 10 in. wide, worth 1 ton of jack per fm., with great indications of improvement; we shall now suspend the driving of this end, and prepare for the sinking of Retallack's shaft as soon as possible. We have commenced to excavate the ground for the bob, and shall lose no time in getting it to work. The lode in the end of the 45 is improved since I last wrote, and is at present worth 2 tons of ore per fm., and from the appearance of the ground I think there is a branch to the south, which I intend to prove as soon as possible; the stope in the back of this level is just the same as last reported, yielding a fair quantity of ore. The stope in back of the 35 is suspended, the lode being very small and unproductive. The lode in back of the 6, west of Marshall's shaft, is 6 in. wide, with 1 ton of jack per fm. The lode in the 55 end, east of east shaft, is still unproductive. The lode in the end of the 45 is 15 in. wide, with stones of jack, copper ore, and leads promising lode; this end is pushed on with all possible speed, to get at the shoot of ore gone down in the 35, which we may expect to reach in about 10 fms. driving. The itch or stope in back of the 35 is somewhat improved since last report, and is worth at present 10*l.* per fm. for jack, lead, and copper ore. We have to-day weighed our jack raist last month, 55 tons, which, with the 20 tons raised the previous month, makes 75 ton on the floors, and which we have commenced to send to the shipping port. We have also raised in the last month 2 tons of lead ore and 3 tons of good copper ore, which will be at once dressed up. I think our next month's ores will be equal to this, if not ove. The prospects of the mine are a little improved, with fair prospects of a continuance.

PENHALDARVA.—P. Hods, Nov. 21: Our engine-shaft is down 6 ft. below the 10-ground favourable. The lis driven south of engine 11 fms.; we have part of the lode 2 ft. wide, unproductiv; also the north level driven 13 fms.; lode 18 inches wide, composed of lead, soft spr, and mundic, with a very promising appearance. We expect a great improvement in this level shortly, as in a few fathoms more driving we shall be under a good couse of lead gone down in the bottom of the adit; this end is letting out a quantity of wter. The winze in bottom the adit, north of Derry's shaft, is much the same as it has been for the past week, worth 10*l.* per fm. for lead. In the adit level, driven south of tw shaft 12 fms., the lode is disordered with killas, poor for lead.

PROVIDENCE.—A. Anthony, Nov. 25: The lode in the 125, west of Higge's shaft, is 2 feet wide—poor. The lode in the 75, east of Higg's shaft, is 2 feet wide, worth 35*l.* per fm. The lode in the 75, west of Higg's shaft, is 2 feet wide—poor. The branch of tin stoping north in back of the 75, east of Higge's shaft, is 4 ft. wide, worth 115*l.* per fm. The stopes under this pitch is 5 feet wide, worth 110*l.* per fm. The cross lode stoping north in back of the 75, east of Higg's shaft, is 6 feet wide, worth 75*l.* per fm. The lode stoping in boom of the 65, east of Higg's shaft, is 4 ft. wide, worth 90*l.* per fm. The lode stopin in bottom of the 65, on a limb of the carbona, is 2 ft. wide, worth 12*l.* per fm. The lode in the 35, west of Speed shaft, is small and poor. The lode in Dunston's shaft is feet wide, worth 5*l.* per fm. The lode in the 13, east of Dunston's shaft, is 2 ft. wi, worth 2*l.* per fm.

PENDEEN CONSOLS.—W. Eddy, Nov. 20: We have set our sump shaft to sink, by six men and three boys, below the 2, and expect to find the shoot of ore, which is dipping south, in the shaft in 2 fms sinking. We have also set the 82 north to drive, by four men; the lode is from 2o 3 feet wide, producing some good saving work, of a fair price, and proves that our lode is improving in depth, and dipping south. In the 70 north we have set the end to drive by four men, the lode holding well; we have a pile of ore hauled up from this, broken in 6 feet of ground, which I shall get dressed next week, and shall sample to prove its value; at the same time I consider it worth 20*l.* per fathom. The winze in the 54 is now down 10 fathoms, we have about 3 fms. more to sink to get through to the 70, when we shall have good ventilation, and work our ore ground to great advantage. Our mine never looked half so favourable as at the present time, when we have only two ends driving below our intersection, and where we expected to find our first ore; we are only now down a fair depth, according to the granite range, to begin to see copper. I believe if we had gone up 100 fms. nearer to the junction we should have had a mine before this, but I think the mine is in the right place.

QUEEN OF DART.—P. Hawke, Nov. 24: The prospects hitherto since my last report are the same, without any change to notice. The parcel of ore that is to be sampled on the 26th inst. is computed to be 30 tons.

REDMOOR.—T. Taylor, Nov. 21: We have not taken down the lode in the 20 end north on the lead lode since last reported, owing to the tributers having some work to haul; we have gone through about 10 fms. in this level, which has yielded about 2 tons of lead—10 fms. long and about 4½ ft. high; it would weaken the ground to strip down the lode to the back of the level, and thereby require timber, having first to desue the lode. We have re-set to drive to four men, at 3*l.* 10*s.* per fm., and 2s. 6d. in 1*l.* for saving the lead (lead only, not with silver). In the 70, on Kelly Bray lode west, the lode is at present small and very mundicky, producing stones of ore, but from the appearance of the lode I think it will open again shortly; this end in driving has yielded about 4 or 5 tons of copper ore, which cannot be taken away until the machinery is got to work; re-set to two men to drive, at 5*l.* 15s. per fm. In the 80, on Kelly Bray lode, the rise against the old workings gone down in the 70, near the lead lode (which we are preparing for a pass to take away the 70 stuff), has produced some good copper ore; the lode is about 2 ft. wide, composed of soft spar, mica, prian, mundic, peach, and about ½ ton of copper ore per fm. The ground by the side of the lode is very good for driving. From the present indications, I think we shall open some good tribute ground in driving the 80 east, which at present is only about 4 fms. from the lead lode and close to the rise; re-set the rise to two men, at 2*l.* per fm. We have also resumed the 20 south, on the lead lode, by two men, at 3*l.* 15s. per fm.; re-set to a pare of tributers, in the back of the 20 (lead lode), at 16s. in 1*l.*, for lead only, formerly it was for lead and silver. The men preparing the level and laying down rails, &c., in the 80 are getting on with their bargain (22 fms., at 1*l.* per fm.) as fast as possible. We have commenced dressing lead, and the surface work is progressing as well as we can expect. The whim-engine, with the exception of the boiler, is on the mine, and the masons are getting on with the masonry with all the speed possible.

ROSEWALL HILL AND RANSOM UNITED.—P. Roach, Nov. 25: Since I wrote you last, on the 18th inst., we have built 6 ft. on the walls of the steam-whim house, which is now within 2 ft. of the height of the bob-end; and have also cleared and secured 14 ft. of the engine-shaft, which at present looks favourable for getting down with greater speed than it has lately. We have recommenced operations in the adit, and hope to be able to get on rapidly, as we believe we are now out of danger from water, being only 3 fms. above the back of the adit in the engine-shaft, and this height will be greatly reduced in another week. All the machinery answers well, and the work of preparation for more is progressing favourably.

SITHNEY WHEAL BULLER.—S. J. Reed, Nov. 21: The adit (towards the eastern part of the sett) has been cleared in the past week about 50 fms., and have also cleared up 25 fms. of shafts. We are now engaged spilling through a shaft, where there is a great quantity of water, which at this season of the year is difficult to perform. We hope soon to complete the painful work of adit clearing, and commence fairly to develope the lodes in the eastern part of the property, which there is every reason to suppose will yield great quantities of mineral. There is no improvement since my last in the 60 east on the new south lode—driven 4 ft. 6 in.

SORTRIDGE CONSOLS.—J. Richards, Nov. 26: Hitchins's Engine-shaft: In the 62 east and west there is no alteration. In the 50 west the lode is between 2 and 3 ft. wide, containing gossan, mundic, peach, and a little rich ore. In Crossman's winze, sinking below the 50 east, the lode is worth for length of sink (9 feet) 2½ tons of ore per fm. In Jeffry's winze, sinking below the 50 east, the lode is worth for length of sink (9 ft.) 2 tons of ore per fm. The lode in the stopes in back of the 50 east is worth 3¾ tons of ore per fm. In the rise in back of the 40 west, a little to the east of the cross-course, the lode is worth 1 ton of ore per fm. There is no alteration in any other part of the mine.

SOUTH BOG.—S. Morris, Nov. 26: The lode in the end driving south, in the 45, is at present small, and the ground strong for driving; consequently, we cannot make so much progress as I wish in driving south, but I trust the time is not far distant before we shall have a change here for the better, as there is a course of ore ahead of us, and we must reach it in a few fathoms more driving. The lode in the 35 end, driving south, is 2½ feet wide, composed of spar, intermixed with lead ore—a very promising lode. We have driven through lead ore here for 3 fms., more or less. This is about 9 fms. ahead of the 45 driving south. The stopes in backs of the 35 will now produce about 10 cwts. of lead ore per fm. The lode in the mine shows every indication of being productive at deeper levels; therefore I would at once advise the sinking of the engine-shaft 15 fms. deeper, and drive out the levels from that point; this would lay open the mine at once.

SOUTH CARN BREA.—T. Glanville, Nov. 25: Nothing new to report this week.

SOUTH CRENVER.—J. Deibridge, E. Chegwin, Nov. 23: In the 84 west the lode is 1 ft. wide, yielding 1½ ton per fm. The rise in the back of this level is holed to the 84; we purpose stoping east and west of the rise, in good tribute ground. In the 84 west the lode is 20 in. wide, tribute ground. The 74 west, the 74 rise over the end, the 54 rise west, and the 54 stopes west of the rise, are yielding each 2 tons of ore per fathom. The 34 west and the 34 rise are yielding 1½ ton per fm. In the 74, east of Gore's, the lode is 1 ft. wide, yielding good stones of ore. It appears we have intersected the killas east of a run of granite; we may expect a change in the lode for the better, as we had a good orey lode on the face of this channel of granite, but at present we have not met with any increase of water. Our tribute is without change to notice. We shall sample two parcels of ore on Tuesday next—No. 1, 57 tons; and No. 2, 22 tons: total 79 tons.

SOUTH CUDDRA.—S. Truran, Nov, 24: The north cross-cut is driven 25 fms.; we have no lode yet, but the ground is still getting wetter, and of a beautiful character, therefore I think we are approaching near the lode. There are 8 fms. driven on the course of the gossan lode east, 4 fms. of which are driven under the lode where we left it standing; it is from 2 to 3 ft. wide, composed of mundic and spar, a strong, kindly lode; when we drive a few fathoms further we shall cut into it, to see how it looks. The reason why we are not driving in the lode is, that it is so much harder and costly for driving on; the end is 8 fms. from the intersection.

SOUTH DOLCOATH AND CARNARTHER CONSOLS.—Wm. Roberts, Nov. 24: In the 70 west the lode has improved in size and appearance; it is now 4 feet wide, producing a small portion of grey and black ore.

SOUTH LADY BERTHA.—W. Goss: There is no particular change since last week. Timber has been bought, and the carpenters and smiths' shop put in good repair.

ST. AUSTELL CONSOLS.—R. H. Williams, Nov. 21: A fortnight since I reported of the 35 cross-cut men, at Dowson's shaft south, being put to rise in the back of the level to prove the main lode south of the east and west slide; in doing this we have opened the main lode very large, and containing some very fine specimens of tin ore, and from my inspection of this lode to-day I have every reason for saying that it will prove equally productive as the lode has done in the 25. It is very large from all appearances at present, and to-day I have broken down some excellent stones of tin, and its appearances are highly satisfactory. Next week I will give you full particulars again. This now fully sets at rest the points respecting the main part of our gre at lode being south; it is precisely the same character in composition and in its bedding as the part in the 25, only this main part is carrying a great quantity of water. Some of the specimens of tin are vastly rich. Some other parts of the mine are improving, and I believe our returns will increase 50 per cent. almost immediately. I am still more strengthened in the opinion we shall have our shoot of nickel again.

TAMAR SILVER-LEAD.—T. Foot, Nov. 24: The engine-shaft has been sunk 1 fm. in the past month, and is now 4 fms. 2 ft. 6 in. under the 215 fm. level; the ground is somewhat improved, and we hope to make more progress in the ensuing month. The lode in the 215 fm. level south is still influenced by the slide, but is showing indications of improvement, and producing good stones of ore; in this level, driving north, the lode is 2 ft. wide, composed of capel, spar, and lead, worth for the latter 7 cwts. per fm. We have three stopes working in the back of this level, yielding respectively 9, 8, and 7 cwts. of ore per fm. In the 205 fm. level south the lode is 3½ ft. wide, composed of capel, fluor-spar, and lead, worth for the latter 18 cwts. per fm.; the lode in this level, driving north, is improved, being 2½ ft. wide, producing 12 cwts of lead per fm.—a very kindly lode; this end is now about 16 fms. further east than the level driven by the former party. There are seven stopes working in the back of this level, yielding as follows:—No. 1, 20 cwts.; No. 2, 15 cwts.; No. 3, 11 cwts.; No. 4, 7 cwts.; No. 5, 12 cwts.; No. 6, 9 cwts.; and No. 7, 8 cwts. of lead per fathom. In the 190 fm. level we have only one stope working at present, the ground of the other having all been taken away. The stope now in work will yield about 7 cwts. of lead ore per fm.

TAVY CONSOLS.—R. Williams, Nov. 26: At this mine we have completed the fixing of the new plunger lift from the 80 to the 56, and it is satisfactory to state that it answers its purpose well. On Friday last, being our setting-day, we suspended setting on tutwork, except the sinking of the shaft, which will be proceeded with as fast as possible. The stopes were offered to the men on tribute, but they declined to take at the survey, some, however, agreed to work on that principle on Monday, and we have set a pitch in the bottom of the 56 east to four men, at 10s. in 1*l.*, and another in the back of the 56 at 11s., and we shall doubtless soon be able to set other pitches.

TEES SIDE.—R. Bray, Nov. 24: I have sent to Alston station 5 tons of lead ore, for Messrs. W. J. Cookson and Co. There is no change to notice in Metal Band level, except that the working from Millican's sump is poorer. The water is in fork at Providence, and nearly all the ore lifted out; these stopes will yield 1½ ton per fm., and would pay well if the wheel was in a proper position. We have got the stamps to work at Metal Band in good order, and if the weather keeps open we shall soon have more ore to market.

TINCROFT.—W. Teague, J. Andrew, J. Cock: At North Tincroft, in the 154 fm. level, driving east of Tyrie shaft, the lode at present is unproductive. In the 154, west of shaft, the lode is 3 ft. wide, producing saving work for tin. In the 142, east of shaft, the lode is 4 ft. wide, worth for tin and copper 10*l.* per fm. In the 142, west of shaft, the lode is at present poor. In the 100, on East Pool lode, driving west of cross-cut, the lode has a very kindly appearance, producing good stones of ore. On Highburrow lode, in the 175, driving east of Martin's east shaft, the lode is 3 ft. wide, worth for tin 25*l.* per fm. In the 175, west of shaft, the lode is 3 ft. wide, worth for tin 15*l.* per fm. In the 162, east of shaft, the lode is 3 ft. wide, worth for tin 16*l.* per fathom. In the 152, east of shaft, the lode is 3 ft. wide, worth for tin and copper 10*l.* per fm. We have done nothing in the 142, west of Downright shaft, since our last report, the men having been engaged stoping the eastern end of the winze from the 120 to the 142 fm. level.

TREWETHA.—T. Richards, W. Rowe, Nov. 25: In the 70, south end, the lode is worth 3*l.* per fm.; the north end is worth 2*l.* per fm. The 60 north is worth 2*l.* per fm. The winze sinking in the bottom of this level is worth 6*l.* per fm. The 50 north is without change. The stopes are producing much as for some time past. We resumed sinking the engine-shaft yesterday. The boiler is on the mine; we shall commence getting it in its place as soon as the engineer arrives. We sampled, on Monday last, two parcels of ore—No. 1, computed 20 tons, and No. 2, computed 21 tons, to be sold on Tuesday, Dec. 1.

TYNE HEAD.—G. Millican, Nov. 21: The carpenters are fixing launders to the wheel, and I hope to have the stamps at work in about a week. There is no change to notice in the mine.

UNITED MINES (Tavistock).—J. M. Champion, Nov. 24: The shaftmen are progressing well with the sinking of the engine-shaft under the 36, and the ground is favourable for sinking. The lode in the 36 is still holding good, and is worth at present full 25*l.* per fm. I am much pleased to state that the lode in the pitch in the back of the 36 is improved, and is now worth 12*l.* per fm. The pitch in the back of the 28, east from the engine-shaft, is worth 2*l.* 10s. per fm. The pitch in the back of 28, west from the engine-shaft, is worth 5*l.* 10s. per fm. There is no alteration in any of the other pitches since last report.

VALE OF TOWY.—T. Harvey, S. Harper, Nov. 24: At Clay's engine-shaft, sinking below the 50, there is no alteration in the ground in the past week. The lode in the 50, north of this shaft, is 3 feet wide, producing 7 cwts. of lead per fm. In the same level south the lode is 5 feet wide, composed of barytes, gossan, and lead, producing of the latter 8 cwts. per fathom. The lode in the 50, south of No. 3 winze, is 2 ft. wide, producing 7 cwts. of lead per fm. In No. 2 winze, sinking below the 40, north of Clay's engine-shaft, the lode is 1½ ft. wide, with a more promising appearance, producing some good stones of lead, but not sufficient to value; in the same level, north of Bonville's shaft, the lode is 2½ ft. wide, producing 5 cwts. of lead per fm. The lode in the 10, north of this shaft, is 1½ foot wide, barytes and gossan, unproductive. Field's shaft is communicated with the 50, bed planked, &c.; in the bottom the lode is 5 feet wide, and will produce 8 cwts. of lead per fm. The lode in the 40, south of this shaft, is 2 feet wide, producing 5 cwts. of lead per fm. The lode in the 30, south of this shaft, is 1 foot wide, composed of barytes, gossan, and jack, unproductive. The lode in the 20 west, on cross lode, no alteration in past week. Our tribute pitches are looking much the same as for sometime past, producing a fair quantity of lead.

VIRTUOUS LADY AND WHEAL BEDFORD CONSOLS.—Jas. Metherell: We have driven west on the course of the lode at Field's shaft about 6 ft., which we find to be small, carrying a well-defined north wall, and producing good stones of ore. After this week I intend to stop it for the time. We are continually meeting with rusty joints, and carrying mundic, in the cross cut at Metherell's shaft, but have not yet reached the shoot of ore.

WEST ALFRED CONSOLS.—S. Lean, R. Stevens, Nov. 24: The ground in the 95, east of flat-rod shaft, is more favourable for driving, and we are daily expecting to intersect the cross-course. In driving we have lately met with several branches of rich ore on the north wall of the lode, which we regard as so many indications of a productive lode in this level. The sumpmen are driving west in this level, and cutting plat preparatory to our sinking below it. The lode in the 85 west is looking more promising for ore than for some time past. The lode in the eastern end, in this level, is 18 in. wide, composed of prian, spar, and stones of copper ore. The lode in rise in back of this level is worth 40*l.* per fm. The lode in the 75, west of No. 2 winze, is 4 ft. wide, and will produce 3 tons of ore per fathom. The lode in No. 3 winze, east of flat-rod shaft, sinking below this level, is worth 35*l.* per fm. We set on Saturday last to sink another winze in bottom of the same level, about 12 fathoms further east, which we shall call No. 4; the lode at present will only yield 2 tons of ore per fm.: we expect shortly to improve much on this. The lode in the 65, west of No. 2 winze, is large and very promising: we are getting into a more congenial channel of ground for mineral. The lode in the 85, west of engine-shaft, is 3 ft. wide, composed of prian and spar. Our hopes were never so strong as to our soon having a paying mine, and in every respect we are doing our best. We have this morning intersected the cross-course in the 95.

WEST CRINNIS AND WHEAL REGENT.—J. Webb, Nov. 26: We have closed the dam in the 40, and find it to be a complete piece of work; it has cut off two-thirds of the water from the engine, and shall now be able to drain the whole run of mines to the bottom. The shaftmen will be employed for a few days putting in tram-road in the 40 east. We have another party of men still clearing the eastern part of the 40; when this is thoroughly cleared out and the tram-road fixed we shall increase the tribute department. In the 30, driving west on Bell's lode, we have an improvement, and likely to open out ore ground there. We shall now be making preparation for extending the flat-rods to Regent engine-shaft.

WEST SHARP TOR.—Wm. Richards, Nov. 23: The cross-cut in the 110 is now extended into the lode 19 ft. 6 in. from the north wall, and no appearance of the south wall as yet; the present end is very promising, being composed of mundic, yellow and grey ore. The men in the 110 west are placed to drive obliquely through the lode, in order to intersect the part of the lode that looks so kindly in the cross-cut east of the shaft. The ground in the cross-cut north in the 70 is the same character—elvan, and becoming a little wet. The 70 east is suspended, there being too little air for two pares of men to work at the same time.

WEST TING TANG.—W. Thomas, Nov. 24: We have now got quite through the "choke" in the south adit cross-cut, and have discovered another lode, 2 ft. wide, a much more kindly one than either we have seen south of the engine-shaft. This is accounted for by the ground being much more clear of the elvan and cross-course; indeed, the present end, 5 fathoms further south than this lode, is now in almost clean granite, of a character decidedly congenial for mineral. We continue to drive this end by three men and one boy, and expect to cut West Damsel south lode very shortly, which, but for the delay in clearing the "choke," would have been done before this. In the adit end east, on the north lode, the lode is 20 inches wide, composed of gossan, prian, and peach, and is worth 3*l.* per fm. for tin.

WEST WHEAL JANE.—J. Tonkin, J. Tregoning, Nov. 21: The engine-shaft is now down about 11 fms. below the 50: we have met with a slight accident, breaking the doorpiece, which has prevented us from sinking during the present week; we shall put in a new one on Tuesday next, and case down the shaft to the 60, hang tackle, and be prepared to sink again below that level in about 7 or 8 days from this time. This will enable us to reduce the price of sinking a little. In the 50 west the lode is 7 wide, producing tin work of about average value. In the 50 east the lode is 4 ft. wide, composed of spar, &c., but poor for tin. In the 50 north we have driven 7 fms. the past month, and expect to cut the north lode in about a fortnight. In the 36 east the lode is 4 ft. wide, producing a little tin and mundic. We shall suspend this end and the 50 east until we have cut the lode in the 50 north, that we may ascertain which lode will be most productive to work on. Our tin pitches are not producing quite as much tin as they have done. Our mundic pitches are looking quite as well as we expected. We hope to sell about 3 tons of tin in about a fortnight.

WHEAL EDWARD.—M. H. East, Nov. 21: North Lode: In the 71, east of shaft, we are progressing with the driving as fast as the nature of the ground will admit, which is rather hard at present. The lode in the 71, west of No. 9 winze, is yielding about 2 tons of ore per fm.; the lode in the 71, east of No. 8 winze, is 6 feet wide, yielding from 4 to 5 tons of ore per fm.; the lode in the 71, driving west from this winze toward No. 7, assumes a very promising appearance; the end is now about 4 ft. west of the cross-course, and is worth from 2 to 3 tons of ore per fm. The lode in the 62 west is large, and yielding stones of grey ore. In the 51 west I have put the men to drive a cross-cut south, in order to ascertain if there is any more lode standing in that direction; the ground is easy for driving, and congenial for copper ore. The same remark will apply to the level above, the 41 west. The machinery is now complete for resuming the operations in No. 7 winze, so that after a short time the 71 will be driving at six different points. The improvement in No. 2 pitch is holding good; the lode will yield fully 4 tons of ore per fm., which will produce, by assaying, 12 per cent. for fine copper. All other points are without any change to notice.—South Lode: The sinking of the engine-shaft below the 61 will be resumed next week. There has been but very little done in driving the 71 west since my last report, the men having been engaged rising a few feet in the back of the level, over the splice, in order to prove the lode, and which I am glad to find holds out a good prospect of being found productive for several fathoms high; it is worth at present 7 tons of good ore per fm.—PS. I am glad to inform you that the boundary question has come to a close at last. The boundary mark will be fixed by Capt. Josiah Thomas, of Dolcoath Mines, Camborne, who was chosen umpire between Capt. Pope and Mr. Henderson. The mark will be fixed at the spot mentioned in my report read at the general meeting held on March 19, 1857, which proves my diallings to be correct, and the plans will remain unaltered. In justice to Mr. Henderson, I beg to say that he has used every exertion in the whole matter from first to last, and that his award of these encroachments will be found much nearer the award of the umpires than that of any other person who has been employed in dialling the ground.

WHEAL EMMA.—Jehu Hitchins, Nov. 26: The engine-shaft is now down full 6 fms. below the 34 fm. level, in a lode 5 ft. wide, the north part of which for about 9 in. is good saving work, and the best in the western end. The 34 end west is in a large lode, 4 ft. of which we are breaking spar, mundic, and yellow and grey copper ore—good tribute ground, and strongly indicating improvement. The water is increasing, and the ground having been hard and troublesome the past week but little progress has been made. In the winze sinking from the 22 fm. level, in advance of the 34 end, now down 4½ fms., the lode is from 4 to 5 ft. wide, still with a strong gossan, capels, and a little fluor-spar: it has a branch of yellow and grey ore and malleable copper, worth 1 to 1¼ ton per fm. In the 22 we are opening out the side of the level, so as to hole the whim-shaft therewith as speedily as possible, which we expect to effect within the next 24 hours, so there is nothing new to notice here. The tributers are clearing up their pitches in preparation for setting-day, on Saturday next. We have weighed off September ores, sold on Thursday last, and sampled October ores, computed 95 tons, and of a better quality.

WHEAL FRIENDSHIP.—Nov. 20: Taylor's shaftmen completed the alteration in the pitwork on Monday. We have set the shaft to sink below the 230, to six men and three boys, stented 9 fms., 5 fms. at 24*l.*, and 4 fms. at 26*l.* The 190, west of Buller's shaft, is holed with a borer to the winze sunk below the 180. The lode in the winze under the 170 is from 2½ to 3 ft. wide, will yield 1 ton of ore per fm. The stopes in the back of the 170, west of Curtis's shaft, will yield 1½ ton of ore per fm. The stope in the back of the 150, east of Brenton's shaft, south underlay, will yield 5 cwts. of lead ore per fm. The lode in the 80, east of Brenton's plane, is 3 ft. wide, producing occasional stones of ore, nothing to value. In the 40, east of Crewe's winze, we have not yet met with any lode or branch to notice. The lode in the 10, east of Lucas's winze, not taken down this month. The lode in the 10, west of Gorman's, is 6 in. wide, producing a little ore, nothing to value. The lode in the 10 east is from 6 to 8 in. wide, will yield 1 ton of ore per fm.; since our last report we have met with a small cross-course, which has disturbed the lode; we expect an improvement, as the end is looking kindly. The stopes below the adit, on the south lode, will yield from 1 to 1½ ton of ore per fm. The lode in the winze sinking under the adit level is 1½ ft. wide, will yield ½ ton per fm., a very kindly lode, and we expect an improvement soon. The lode in the rise above the adit, east of Crew's cross-cut, is 18 in. wide, kindly, but poor.—Kent's Lode: The lode in the 60 west is very regular, but small and poor. The lode in the 60 east is about 6 in. wide, poor. We have met with the lode at the 24, and are now driving east, but have not yet taken down the lode. The lode in the rise above the 12 is 2 ft. wide, and will yield 2 tons of ore per fm. The lode in the winze under the adit level is 1 ft. wide, will yield 1 ton of ore per fm. The lode in the rise above the adit level, east of Kent's shaft, is 1 ft. wide, and will yield ½ ton of ore per fm. The tribute pitches are much the same as last reported. We calculate to sample this month about 130 tons of ore.

WHEAL GRENVILLE.—G. R. Odgers, Nov. 21: We have not taken down any lode in the engine-shaft this week. The lode in the 54 east is large, but the south or leader part is about 18 in. wide, composed principally of quartz, mixed with iron and prian; there has a branch come in from the north, and this has evidently disordered the lode; I think it is the same we had in the level above. In the 60 western end, in the same level, the lode is about 14 in. wide, chiefly of a kind of sugary spar and gossan; it is alive for tin, but not enough to save. The ground is beginning to get easier, which I would much rather see a little stiffer; there is more water coming from the end than usual.

WHEAL GUSKUS.—James Richards, Nov. 24: The new lode in the 30 end, east of Rapson's shaft, is 2 feet wide, with a little lead; we have to suspend it at present for want of air, and cannot do any more at this point until our new shaft is down. We have driven south in the adit level, at the new shaft, and cut the lode, and driven on its course 3 fms.; the lode is 2 feet wide; the western end saving work for lead. In the eastern end the lode is 1½ ft. wide, with

he pare of men who took this bargain have given it up again, so that there is but little done since last report. The lode in the winze sinking below the 74 is still disordered with the cross-course, and is at present poor. The lode in the 74 east end is 1½ foot wide, producing 2 tons of copper ore per fm. The lode in the winze sinking below the 65 is 2 ft. wide, yielding 2 tons of copper ore per fm. The deep adit level, east from Bates' shaft, is without any material change since last report.

WHEAL HENRY (Helvelyn, Cumberland).—John Muse, Nov. 7: We cut some good ore in the upper level on Wednesday, the day your letter came, and it has improved ever since, and if it only continues we shall very soon have a glittering heap at the upper level mouth. The lower level continues hard, with much quartz and barytes, mixed with ore. A great pressure of water. The cross-cut is not so much mixed with ore, but was quite dry until now; they have loosed a good deal of water, which I like still better. I hope no time will be lost in beginning the level 20 fms. below the present lower level, that we may push on to the ore gone down in the present lower level, which no doubt will prove productive. They are looking well at Eyles Crag Mine, and are in high spirits.

— Nov. 20: In the upper level we still have ore in the barytes, and in the lower level in the end a very strong vein, about 6 feet wide, with blue and white ore and green copper, and a great deal of water. The cross-cut not so good for ore, but a strong vein, full of what you call vughs and water, with sand or sugar-spar. We have discovered one vein down below, on the same side of the stream as the count-house stands, and a little below another north and south vein, and an east and west vein which will cross them both; our own vein has a little ore in it; this will be 20 to 25 fathoms below our present lower level.

WHEAL MARY ANN.—P. Clymo, jun., H. Hodge, R. Knapp, Nov. 26: Pollard's shaft is sunk to the 150 fathom level, and the shaftmen are at present engaged in cutting ground for bearers and cistern. The lode in the 140 north is 2 ft. wide, worth 18*l.* per fm; in same level south it is 3½ ft. wide, worth 20*l.* per fm. In the 130 north it is 3 ft. wide, worth 9*l.* per fm.; in same level south it is 2½ ft. wide, worth 15*l.* per fm. In the 120 north it is 2 ft. wide, worth 10*l.* per fm.; in same level south it is 2½ ft. wide, worth 6*l.* per fm. In the 110 north it is 3 ft. wide, worth 10*l.* per fm.; in same level south it is 3½ ft. wide, worth 13*l.* per fm. In the 100 north it is 3 ft. wide, worth 11*l.* per fm.; in the same level south it is 2 ft. wide, worth 9*l.* per fm. Clymo's engine-shaft is sunk 11 fms. 2 ft. under the 85. The stopes and pitches are producing as much as usual. We sampled on Friday last, the 20th inst., a parcel of lead ore, computed 83 tons, for sale on the 28th inst.

WHEAL MARY EMMA.—Wm. Doble, Nov. 26: The floors for dressing are completed. The round buddle answers well. We commenced driving on Monday afternoon, and by all appearances shall return a good quantity of tin. The stopes are looking well. I shall be obliged to take the men from the stopes for a few days, to help get in the railways and drawing-machine at the same time, as well as to keep the stamps and dressing going on. The stamps and all connected are working well.

WHEAL TEHIDY.—D. Lanksbury, Nov. 25: There is no alteration in either level to notice since last reported, only in the 50 west on the tin lode, the lode is 7 ft. big, and likely to be larger, with stones of tin. Our sampling for copper ore to-day will be 65 tons.

WHEAL TRELAWNY (Monthly Report).—J. Prince, Nov. 21: Smith's engine-shaft is sunk 11 ft. below the plat in the 142; the slate in the bottom is not hard, but it is accompanied by floors of hard white quartz, consequently the ground is not so favourable for sinking at present as it otherwise would be. The cross-cut in the 142 is extended 7 fms. towards the lode; the ground is favourable for driving, and congenial for lead ore. In the 132 north the lode in the rise going up against the winze sinking in the 120 is not taken down, but the ground looks well by the side of it; in the same level south a part of the lode is standing for about 9 ft. behind the end; it will be taken down next week: that part seen is worth about 7*l.* per fm. The lode in the 120, north of Chippindale's, is not quite so good as it was last week, but an improvement is speedily anticipated; it is at present worth about 8*l.* per fm. The lode in the winze sinking behind the end is 3 ft. wide, and worth fully 10*l.* per fm.; we have commenced sinking a winze in this level, to the south of the engine-shaft, for ventilating the level below, and opening tribute ground; the lode is 3 ft. wide, and worth 10*l.* to 11*l.* per fm. The lode in the 108, north of Chippindale's, is 3 ft. wide, and worth 16*l.* per fm. In the 98, north of Chippindale's, the lode is 18 in. wide, and is worth 7*l.* 10s. per fm.—South Mine: The lode in the 142, south of Trelawny's engine-shaft, is 3½ ft. wide, and worth 8*l.* per fm.; in the same level north we are driving in slate by the side of the lode; we shall soon be in a position either to take down the lode or cut through it, as we may decide upon. The lode in the 130 south is 3½ ft. wide, and is worth 14*l.* per fm.—a good looking lode. The stopes in the north mine will average 10*l.* per fm., and in the south mine, 8*l.* per fm. We have sampled to-day two parcels of silver-lead ore of good quality—No. 1, 80 tons; No. 2, 50 tons; samples of which I will assay, and forward the results to the purser. The machinery throughout the mines is in good order and working well.

WHEAL TREMAYNE.—R. Williams, John Williams, Nov. 23: At the boundary engine-shaft, the men are engaged putting in penthouse, &c., which will be completed in course of this week; immediately after which they will commence sinking under the 113; in the same level east of Allen's shaft, on Allen's branch, the branches are still yielding occasional stones of tin, but not to much value; in the 103, east of the same shaft, on Allen's branch, the branch is improved, being now worth 15*l.* per fm., with a very kindly appearance; the stopes in back and bottom of same level, on Allen's branches, are worth on an average 14*l.* per fm.; in the cross-cut south of the same level, towards the engine lode, there is no change to notice since last report; in the winze sinking under the same level, east of shaft, on Allen's branch, the branch is mixed with copper, worth 8*l.* per fm.; this winze is suspended for the present, and the men put to stope east of the same; in the winze and stope in bottom of the same level, west of shaft, on the same branches, the branches are worth 10*l.* per fathom. Allen's shaft, sinking under the 103, is communicated with the 113 by a rise in back of the same level: the men are now engaged cutting down and securing the same to its size; the stopes in bottom of the 73, east of the same shaft, on Allen's branches, are worth 7*l.* per fm.

WHEAL TREVELYAN.—J. D. Osborn, B. Gundry, Nov. 21: We have commenced sinking the engine-shaft below the 50—ground favourable. In the 50 driving east, on Park lode, there is no lode taken down since last report. In the 40, driving east and west from Richards's shaft, on the tin lode, there has been no lode taken down since last report. Next week we shall be able to state the value of the lodes in each of these levels. The cross-cut driving south in the 50, to cut Richards's tin lode, is driven about 3½ fms. The tribute department of this mine is the same as usual.

WHEAL UNION.—T. Glanville, Nov. 25: The 20, east of the engine-shaft, continues to produce about 30*l.* per fm. for tin.

WHEAL UNITY.—J. Vivian, Nov. 23: The lode in the 40, east of flat-rod shaft, is 2 ft. wide, worth 14*l.* per fm.; in the same level west the lode is 1½ ft. wide, worth 4*l.* per fm. The lode in the 30, east of No. 1 shaft, is 2 feet wide, worth 5*l.* per fm.; the lode in the same level, west of flat-rod shaft, is split into branches, which are poor. The lode in No. 2 shaft, sinking under the 19 fm. level, is 1 foot wide, worth 7*l.* per fm. The lode in the 19, east of Maria engine-shaft, is 2 ft. wide, producing a small quantity of copper ore. In the 10, east of ditto, we have met with a cross-course, and are now driving south to intersect it on the east side. The tribute department is without alteration worthy of notice since last report. We hope to be in good order of sinking the flat-rod shaft below the 40 in about a fortnight.

WREY CONSOLS.—W. Williams, Nov. 26: In consequence of a quantity of rubbish having fallen from the sides of the wheel-pit it has rather retarded our progress; however, all is out now, and handbills are posted around the different villages near here to solicit tenders being given in for the building of wheel-pit at per perch, including every material. I have men now engaged driving from the east end of the wheel-pit to unwater the engine-shaft.

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CLARA SILVER-LEAD.—S. Trevethan, S. Trevethan, jun.: We have drained the water from the 15 fm. level in the north workings, and have commenced drawing water under that level, to be more positive of the nearest point to communicate with the rise in the back of the 20 fm. level in the new workings. The lode in the above-mentioned rise is from 5 to 6 ft. wide, and the part we are carrying, which is about 4 ft. wide, will yield at present 15 cwts. of ore per fm.; this, when communicated, which we are expecting daily, will lay open a run of ore ground for at least 60 fms. in length. The old workings are to be seen several fathoms more than that extending westward; we find, as far as we have been able to go, that stulls have been put in, and loaded with stuff or refuse from the ancients: and by minutely examining it, both underground and at surface, it is our belief that the greater part, if not the whole, will pay well for dressing with a crusher, as in the days when it was last worked such things were not known in this country. We cannot make an exact estimate of the ore now standing in the back of the 20 fm. level and in the old workings; there is no doubt of there being many scores if not hundreds of tons. This we shall be able to ascertain when the ground is holed, and to all appearances large returns will be made, and give good profits to the shareholders.

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Duty of Steam-Engines.—The reporting question having been formally brought under the notice of the Royal Cornwall Polytechnic Society, a few remarks on the subject may not be out of place. The duty of steam-engines is fully explained in the "Records of Mining and Metallurgy," wherein it is stated that the term "duty" was first employed by Watt to signify the nett effect resulting from the consumption of a given quantity of coal. In Cornwall the diameter of the cylinder of a steam-engine is usually employed to convey an idea of its power; but its economic performance is invariably determined in relation to the quantity of coal consumed to produce a given effect. This expression may be formulated as the amount of force and weight of water lifted, multiplied by the space in which it acts, divided by the weight of coal consumed. Messrs. Boulton and Watt appealed to this test of the efficiency of their engines when engaged in ascertaining the saving of coal due to their invention, and referred to it in all disputes respecting their legal rights. Watt also invented a "counter," to record the number of strokes made by an engine; this was usually attached to the main beam. On the expiration of Watt's patent, about the year 1800, the duty of the best engine in operation was 20,000,000, which, compared with the result rendered by the best of Smeaton's engines in 1772 (9,450,000), shows an increase of about cent. per cent. On Watt's retirement from Cornwall he withdrew most of his skilled workmen, and, in consequence, a general deterioration of duty occurred. In 1811, Mr. Joel Lean first published his *Engine Reporter*, few engines being reported upon, until by degrees the practice was recognised as extremely valuable, and ultimately a large number of engines were included in the list. This proceeding has been the means of conferring vast benefit on the mining interest, and of greatly economising the coal production of the country, since it stimulated such men as Trevithick, Woolfe, and Grose, to effect those improvements which constitute the great excellency of the Cornish engine. The duty of Cornish engines had gradually increased until 1843, when the average of the whole had reached 60,000,000, and that of the best engine 96,100,000. For some years the duty has been rather on the decrease, but it appears to be due in some measure to the use of inferior coal; good workmanship has apparently attained its practical limits; whilst it has not been thought advisable to alter in any essential degree the proportions of the engine or the pressure of the steam employed.

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Indus Steam Flotilla.—The Scinde Railway Company having been guaranteed 5 per cent. by the East India Company upon the capital required to establish a steam flotilla on the Indus, have issued their prospectus, which appears in another column. From Kotree, the upper terminus of the Scinde Railway, to Mooltan, the lower terminus of the Punjaub Railway, the navigation is to be carried on by steamers. The distance between these termini is 370 miles, and the traffic obtained will be that of the richest portions of the Punjaub and the adjoining provinces. The capital of the company is fixed at 250,000*l.*, in 12,500 shares, of 20*l.* each, upon which a deposit of 1*l.* per share is required; the guarantee of interest to this company is the only one given by the East India Company for the establishment of steam navigation on any of the Indian rivers. The returns are estimated by the consulting engineer at 20 per cent., and the board of directors is composed of Sir J. C. Melvill, K.C.B., Sir Herbert Maddock, and Messrs. W. P. Andrew, J. E. Anderson, H. Borrodaile, and T. Williams, so that there is everything to justify the anticipation of the most complete system of management.

# The Mining Market; Prices of Metals, Ores, &c.

*METAL MARKET, London, November 27, 1857.*

| COPPER. | £. s. d. |
|---|---|
| Copper wire ..... p. lb. | 0 1 3½–nom. |
| ditto tubes ..... ,, | 0 1 4– 1 4½ |
| Sheathing and bolts .. ,, | 0 1 1½– — |
| Bottoms ..... ,, | 0 1 2– 1 2½ |
| Old (Exchange) ..... ,, | 0 1 0– — |
| Best selected ..... p. ton | 134 10 0– — |
| Tough cake ..... ,, | 121 10 0– — |
| Tile ..... ,, | 121 10 0– — |
| South American ..... ,, | 120 – — |
| IRON. | per Ton. |
| Bars, Welsh, in London . | 8 0 0– 8 5 0 |
| Ditto, to arrive ..... | 6 10 0– 6 15 0 |
| Nail rods ..... | 7 0 0– — |
| Best Stafford. in London | 9 0 0– 9 10 0 |
| ,, Stafford. in London | 9 0 0–10 10 0 |
| Bars ditto | 9 0 0–10 10 0 |
| Hoops ditto | 10 7 6–10 15 0 |
| Sheets, single ..... | 10 15 0–11 10 0 |
| Pig, No. 1, in Wales ... | 4 0 0– 4 5 0 |
| Refined metal, ditto..... | 4 15 0– 5 5 0 |
| Bars, common, ditto ... | 5 15 0– 6 5 0 |
| Ditto, railway, ditto ... | 5 10 0– 6 0 0 |
| Ditto, Swed. in Lon..... | 13 0 0–14 15 0 |
| in stock to arrive ..... | 15 0 0–16 0 0 |
| Pig, No. 1, in Clyde ... | 2 13 0– 2 15 0 |
| Ditto, in Tyne and Tees. | 2 15 0– 3 0 0 |
| Ditto, forge ..... | 2 15 0– — |
| Staffordshire Forge Pig. | 4 10 0– 5 0 0 |
| Welsh Forge Pig ..... | 3 0 0– 3 5 0 |
| LEAD. | |
| English Pig ..... | 22 5 0–22 10 0 |
| Ditto sheet ..... | 24 0 0–24 0 0 |
| Ditto red lead..... | 25 10 0– — |
| Ditto white..... | 27 0 0–28 0 0 |
| Ditto patent shot ..... | 26 0 0–26 10 0 |
| Spanish, in bond ..... | 22 0 0– — |
| American..... | none. |
| BRASS (sheets) ..... p. lb. | 11¼d.–12¼d. |
| Wire..... | 11¾d.–12d. |
| Tubes ..... | 13¼d.–14d. |

| FOREIGN STEEL. | Per Ton. |
|---|---|
| Swedish, in kegs ..... | 21 15 0–22 0 0 |
| ,, to arrive ..... | 21 10 0– — |
| Ditto, in faggots ..... | 23 10 0–24 0 0 |
| English, Spring ..... | 18 0 0–23 0 0 |
| QUICKSILVER ..... p. lb. | 2 0– — |
| SPELTER. | Per Ton. |
| Foreign ..... | 27 0 0–27 10 0 |
| To arrive..... | 27 10 0– — |
| ZINC. | |
| In sheets ..... | 35 0 0–36 0 0 |
| TIN. | |
| English, blocks ..... | 120 0 0– — |
| Ditto, Bars (in barrels) | 121 0 0– — |
| Ditto, Refined ..... | 123 0 0– — |
| Banca ..... | 108 0 0–110 0 0 |
| Straits ..... | 102 10 0–106 0 0 |
| TIN-PLATES.* | |
| IC Charcoal, 1st qua. p. bx. | 1 13 0– 1 14 0 |
| IX Ditto 1st quality ,, | 1 19 0– 2 0 0 |
| IC Ditto 2d quality ,, | 1 11 0– 1 12 0 |
| IX Ditto 2d quality ,, | 1 17 0– 1 18 0 |
| IC Coke ..... ,, | 1 6 6– 1 7 0 |
| IX Ditto ..... ,, | 1 12 6– 1 13 0 |
| Canada plates..... p. ton | 15 0 0–15 5 0 |
| In London; 20s. less at the works. | |
| Yellow Metal Sheathing ... p. lb. | 11¾d – |
| Wetterstedt's Pat. Met.... p. cwt. | 2 2 0 |
| Stirling's Non-laminating, or Hardened, Surface Rails.. p. ton | 9 0 0– 9 2 0 |
| Stirling's Patent Toughened Pigs } Glasg. | – 5 5 0 |
| Ditto Wales | 4 0 0– 5 5 0 |
| Indian Charcoal Pigs in London ..... | – 7 10 0 |

* At the works, 1s. to 1s. 6d. per box less.

Remarks.—We cannot report the slightest improvement either in price or demand in any one article of our market; in fact, if anything, we rather think there is an indication of a more apparent easiness, or a greater tendency in prices to decline, than has been hitherto manifested. The extent and number of orders still continue extremely limited, at times quite insignificant, and so very unimportant as to have little or no influence in establishing quotations. Our market has certainly received such a shock that some long time must elapse before it will recover its former position; we shall, doubtless, have more enquiry after Christmas, but the effect of the numerous suspensions in the banking and mercantile community are of such a character as must necessarily interfere with the general routine of business for some months at least.

Copper.—In spite of the present inactive and gloomy state of things, we have as yet no allowance conceded by smelters. Buyers must await patiently before they can purchase at a fair price, or should they be distressed at the moment for want of supplies, they must humbly submit to the exhorbitant rates that are now charged. While all other sellers of metals are acting in accordance with the times, here is an association of traders who set everything at defiance, and, in opposition to the established custom of commerce, evince no disposition to lower prices. Since the alteration in the price of copper there have been some considerable reductions in the standard, and the market value of ores at about 92*l.*, whereas the price of cake copper is 121*l.* 10s. Surely such a margin as this is more than in justice ought to be demanded. The market ought to be lowered to 1s. per lb., especially under existing circumstances, and then some business would be transacted. We hope at the next meeting smelters will make some change, for it is very unsatisfactory for buyers to know that they are obliged to pay a price which must yield most enormous profits to the sellers.

Iron.—Orders continuing so very scarce cause prices to keep very unsettled; rails and Welsh bars can both be procured at less rates; probably a small cargo of bars could be obtained for delivery here by coaster at 6*l.* 10s. to 6*l.* 15s. per ton, ordinary sizes; rails probably at 5s. per ton less. Even under this quotation our market is very depressed, and it is, therefore, uncertain what figure might be accepted for a good order: all quotations must be considered nominal. Staffordshire bars, hoops, and sheets, of best quality, have fallen about 5s. to 10s. per ton. Bars, good brand, at 9*l.* 10s.; hoops, 10*l.* 10s.; and sheets, 10*l.* 15s., sellers' quotations. Ordinary and inferior kinds vary from 10s. to 30s. per ton less. The demand has very much diminished for shipment. In Swedish bars there have been but few sales, prices reduced to about 13*l.* per ton. In Scotch pigs there has not been much doing, and the market has receded to 52s. 6d., mixed numbers, g.m.b., f.o.b. in Glasgow.

Lead.—A gradual decline in the value of this metal has taken place, and contracts could now be effected at 22*l.* 5s. to 22*l.* 10s. for English pig. Sheet and other descriptions have also declined, but to a less extent.

Spelter.—The market is without animation; 27*l.* is quoted as the last price paid. Zinc is reduced to 35*l.* per ton.

Tin.—In English blocks, &c., there is somewhat doing; prices remain as last quoted. Foreign is inactive, and no sales are reported; there is a large quantity still warehoused here, but holders are not disposed to sell at such low quotations as at present stated, at the same time buyers are anxious to purchase.

Tin-Plates.—Makers have given way in prices, both for coke and charcoal; IC coke is offered at 26s. 6d. and IC charcoal at 33s. per box.

Steel.—Swedes, keg, 22*l.* (hammered), and 19*l.* (rolled); very little enquiry, and but small quantity in stock.

Quicksilver.—No change in price is announced.

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Liverpool, Nov. 26.—Our market for metals continues to show a downward tendency in prices. The depression previously mentioned appears to be, if anything, increased, and an almost total suspension of business is the result. Our quotations are merely nominal, as in some instances considerable reductions in the prices quoted would be submitted to in order to secure orders. The shipments of Scotch Pig-iron are again large, being 11,062 tons, against 9524 tons for the corresponding week of last year. A very trifling speculative demand is observable, otherwise the actual business would not be worth noticing. Tin-plates are gradually receding in price, buyers even of small quantities having the advantage in their favour. English Tin remains unaltered, but foreign has experienced a serious decline. For Copper and Lead the enquiry is moderate, and in the former article, especially, a reduction in price is looked for. The following are the quotations:—Iron: Merchant bar, 7*l.* to 7*l.* 10s. per ton.—Tin: Common block, 120*l.* per ton; common bar, 121*l.*; refined block, 124*l.*—Tin-plates: Charcoal, IC, 33s. to 35s. per box; coke, IC, 26s. to 27s. 6d.—Lead: English sheet, 24*l.* 10s. per ton; English pig, 23*l.* 10s.—Copper: Cake and tile, 121*l.* 10s. per ton; best selected, 124*l.* 10s.; sheathing and bolt, 1s. 1½d. per lb.—Yellow metal sheathing, 11¾d. per lb.—Steel: Blistered, 30*l.* to 40*l.* per ton; spring, 18*l.* to 24*l.*; cast and shear, 50*l.* to 60*l.*

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Glasgow, Nov. 26.—The pig iron market has been very quiet since last report, a few transactions in warrants taking place at 52s. 6d. to 53s. cash, and 55s. to 55s. 6d. three months open. Makers' iron is plentiful, at about 1s. 6d. per ton under warrants, and several parcels have recently been put into store. To-day the market was flatter, and 52s. 6d. accepted for 14 days payment. No. 1, Gartsherrie, 62s.; No. 1, g.m.b., 53s. 6d.

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New York, Nov. 11.—Trade generally is at a standstill, and in the absence of important sales prices are nominally unchanged. Scotch pig sells slowly, as wanted, at $28 to $29, six months. English bars are nominally held at $52 to $53 for common, and $60 to $62 50 c. for refined. English sheet is quiet, at 3c. to 3¼c. for singles, 3¼c. to 3¾c. for doubles, and 4c. to 4¼c. for triples, our extreme rates only for small parcels from store to the jobbing trade. Russia sheet is quiet, but steady, at 11c. to 11¼c., six months. Of Welsh rails, 1000 tons sold at prices not transpired.

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At Redruth Ticketing, on Thursday, 3335 tons of ore were sold, realising 17,369*l.* 8s. The particulars of the sale were—Average standard, 12*l.* 12s.; average produce, 6¾; average price, 5*l.* 4s.; quantity of fine copper, 213 tons 1 cwts. The sale at Redruth, on Thursday, will be 3000 tons.

At Swansea, on Tuesday, 1055 tons of copper ore sold for 13,639*l.* 19s. 6d.—of which the Cobre Mines had 706 tons, and 10,571*l.* 8s. 6d.; Berehaven, 235 tons, 2073*l.* 11s.; Knockmahon, 103 tons, 963*l.* 2s.; and Molland, 11 tons (4 prod.), 31*l.* 18s.—The next sale, on Dec. 15, will be 1327 tons, from Cobre, Chili, Peninsular, Spanish, Great Barrier, Namaqua, London Slag, Adelaide, Bampfylde, South Australian, Wildberg, Genoa, Bahama. On Tuesday, one lot of the Cobre ores (63¾ prod.) realised 59*l.* 5s. per ton.

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Mines.—When the telegram arrived in London yesterday week, stating that the Devon Consols Company had got an advance equal to 9*l.* per ton upon copper for their 2542 tons of ore, we naturally supposed that the standard was better, and to this we referred at the end of our second paragraph. Judge, then, our surprise to learn next day that the standard had not risen at all! The mystery at first seemed almost inexplicable, but it soon became known that the directors of the Devon Great Consols not only threatened to withdraw their ores from the ticketing, but their agent attended the sale for the purpose of withholding them, unless a fairer price was given. Consequently, an advance equal to nearly 9*l.* per ton on copper was made on their ores, the price remaining the same for other mines; so that, in reality, the latter were sacrificed to benefit the leviathan, which had threatened to revolt! This has given rise to various comments, and as the directors of the Devon Great Consols are also largely interested in mines in the Gwennap district, it is generally hoped and expected that the same means will be used for better prices by them when their mines in that district are selling, and also that all other producing mines will either "stock" their ores altogether, or follow the example of last week.

The money market has been easier since our last, though some heavy failures have taken place; one of these is connected with the copper trade, but bills, we understand, will be met. Notwithstanding these failures, the funds have kept rising. Joint-stock banks had a very serious fall a week ago, but have been recovering in a wonderful manner, whilst East Indian railway securities have advanced nearly 13 per cent. from the lowest point.

The mining share market has been but moderately active, and business limited to small speculative and progressive mines, in which prices have been well maintained, but in others, where sales have been pressed, prices have receded. Alfred Consols have again fluctuated very much, reaching 16, and leaving off at 14. Much of this is owing to the large speculative business done for the "account"—that is, for settling once a fortnight, the interim being employed in getting up prices by the "bulls," and getting them down by the "bears," all of which is very unsatisfactory to the *bona fide* holders. From all accounts the mine is not looking so well. Grambler and St. Aubyn, 80 to 82½; the lode in the 36 is worth 16*l.* per fm.; East Basset, 92½ to 95, and for an investment in mines for progressive dividends these are looked upon as among the best. Great South Tolgus also in demand, at 14½ to 15; Mary Ann, 50 to 52; Trelawny, 22⅝ to 23⅝; Wheal Wrey shares have been in request, at 5¼ to 5½; Ludcott have declined to 1, 1⅛; Lady Bertha fluctuated from 20s. to 23s., and leave off at 21s. 6d. to 22s. 6d.; Wheal Edward shares not so firm again, at 6¾ to 7⅛; Wheal Grenville shares have been in demand, at 32s. to 34s., but no change has taken place in the mine; West Grenville flat again, at 4s., lode not looking so well; Clijah and Wentworth shares have been much enquired for, at 4½ to 5; Redmoor, ⅛ to ¼; Craddock Moor, 39, sellers. Wheal Margaret shares have been flat, at 48 to 52; the dividend at the meeting was 2*l.* per share only, less tin having been sold, owing to its low price. Providence Mines, 70 to 72; Great Alfred, 5; East Tamar, ⅜; Pendeen, 2⅜ to 2⅝, and a large business doing in the shares, the mine being fully expected to turn up a prize. Rosewarne and Herland shares, which have been a long time quiet, have again become enquired for, at 4½ to 5; Herodsfoot, 7. South Caradon, 340, ex div.; at the meeting, a dividend of 8*l.* per share, and a bonus of 2*l.*, was declared, leaving a balance of 2508*l.* 15s. 10d. in hand. Sortridge Consols, 1¾ to 2, rather flat; Rosewarne, 22½ to 25; North Frances, 10 to 12; Condurrow, 110 to 115. East Russell, 2½ to 2⅝, and in demand; the mine is said to be looking well. Par Consols, 18¾ to 19; West Fowey, 6 to 7; Wheal Kitty, 16 to 17; Kelly Bray, 1½ to 1⅝; South Frances, 220 to 240; Basset, 160; Wheal Harriett, ¼ to ⅜; Wheal Uny, 7, and rather flat again; West Par Consols, ½ to ⅝.

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Our attention has been called to the position of some of the shareholders in the West Goginan Mining Company, who complain that they are threatened with actions by creditors, although they have paid up all their calls, and are prepared to pay their further just proportion of liabilities. One shareholder states his belief that there are heavy arrears of calls unpaid, though he can get no official information as to the state of the company, at which he expresses his surprise, naturally we think, when he also informs us that the members of the committee are men of high commercial standing, two of them being directors of a well known joint-stock bank. It is just possible, however, that these gentlemen have not had their attention called to the complaints, which are now getting both loud and deep, and that this notice will be sufficient to call their attention to them, and to the necessity of convening a meeting of the general body of shareholders, to make a further call, if necessary, and to protect individuals who have so far responded to all that have been made.

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If shareholders are so disregardful of their own interest as not to attend meetings, specially convened, they may, possibly, some day or other, experience the disadvantage of such apathy. An attempt was made a few days ago (and would have succeeded, but for the manifest informality of the whole proceedings) to get the management of the Bedford United Mines transferred from London to Exeter, under the specious pretext of "economy," to be evinced by the extinction of the present manager and purser, the London committee (an unpaid one), and the secretary! This hitherto prosperous concern was to be consigned to the tender mercies and untried management of some Exeter shareholders, gifted, it is presumed, with superior wisdom and experience in the science of mining. The present committee consists of gentlemen (three of whom are directors of the celebrated Devon Great Consols Mining Company) of as unquestionable probity, intelligence, and high standing as any to be found in the City of London, having a large stake in the concern, and fully equal to the management of the trust reposed in them. Under their protection the mine has hitherto prospered—has paid large dividends, and will probably continue to do so for many years; and, therefore, it cannot be conceived that any possible benefit is likely to arise from the changes proposed. It has been demonstrated that the consolidation of certain duties incompatible with each other, in the persons of fewer servants of the company, would be worse than questionable economy, and pernicious in its result. If it could be established that the majority of the shares were held by persons living at Exeter, the reasonableness of consulting their convenience by having the meetings held there must be admitted. Such not being the case, London is undoubtedly a more convenient focus for shareholders scattered all over the kingdom than the place proposed. No allusion has hitherto been made to the injustice of dispensing with the services of the committee, secretary, and manager, without any assignable reason for doing so; nor can it be supposed that any body of right-minded proprietors would sanction such an attempt. They must, however, be reminded that they connive at its perpetration whenever, by the absence, they allow others so to act. Unavoidable absence may be at all times remedied by a stamped proxy paper.

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**Mining Exchange Official List of transactions durig the week:—**

Saturday, Nov. 21.—East Tamar, 14s. to 15s.; Herodsfoot 7; Redmoor, ⅛; West Grenville, 6s.; Wheal Edward, 7¼ to 7⅛.

Monday.—Alfred Consols, 15¾, 16, 16¼; Devon Buller, 2s. 6d. to 13s. 6d.; East Russell, 2 3-16 to 5 5-16; Kelly Bray, 1½, 1⅝, 33s., 34s.; Lady Bertha, 23s., 24s., 22s., 22s. 6d., 23s.; Pendeen, 2⅛; West Grenville, 4s. 6d. 5s. 6d., 5s. 9d., 4s. 3d., 4s. 9d., 5s., 5s. 6d., 6s.; Wheal Mary Ann, 49 to 49¼.

Tuesday.—Lady Bertha, 22s. 6d. to 23s. 6d.; Par Consols 18½, 18¾, 19; Pendeen, 2, 2⅛, 2¼, 2⅜, 2⅛; Redmoor, ⅛; Rosewarne United, 21, 21⅛, 22½; Sortridge Consols, 2, 2¼, 2, 2, 1s. 3d.; Wheal Edward, 7*l.* 7s. 6d., 8-16, 7 7-16; Wheal Grenville, 1¾; Wheal Wrey, 5⅜ to 5¾.

Wednesday.—Alfred Consols, 14½; East Russell, 2¼, 2⅜, 2 3-16; Lady Bertha, 22s. to 23s.; Sortridge Consols, 2, 2 1-16, 2⅛; Wheal Edward, 7 to 7⅛; Wheal Wrey, 5¼ to 5⅜.

Thursday.—Condurrow, 110 to 115; East Russell, 2¼; Lady Bertha, 22s. to 1¼; North Frances, 10; Rosewarne United, 22½ to 23½; Sortridge Consols, 2, 2⅛, 1*l.* 18s. 9d., 2; West Grenville, 3s. 9d., 4s. 3d., 3s. 6d., 4s. 9d., 4s.; Wheal Edward, 7 to 7¼; Wheal Ludcott, ⅜ to 1.

Friday.—East Russell, 2⅜ to 2⅛; Lady Bertha, 2s. to 22s. 6d.; Rosewarne United, 22½ to 23½; Sortridge Consols, 1*l.* 16s. 3d., 1 17s. 6d., 1¾, 1⅞, 1*l.* 14s., 1¾; West Grenville, 4s., 4s. 3d., 3s., 3s. 6d.; Wheal Edward, 7 to 7¼; Wheal Wrey, 5½, 5⅜, 5⅝.

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**On the Stock Exchange, the following busines has been transacted:—**

Saturday, Nov. 21.—Alfred Consols, 15¼ to 15⅛; Wheal Edward, 7⅜; Mariquita, ⅜.——Transactions, though not officially marked: Alfred Consols, 15½ to 16; Wheal Edward, 7¼ to 7⅜; Lady Bertha, 23s.; Sortridge Consols, 2½; East Russell, 2¼; Wheal Margaret, 50; Providence Mines, 72, with div; Great Wheal Alfred, 5.

Monday.—Sortridge Consols, 2 to 2¼; Wheal Mry Ann, 50; Cobre Copper, 39.——Transactions, though not officially marked: Par Consols, 19¼; South Caradon, 340 to 345; East Rosewarne, 17s. 6d.; Sortridge Consols, 2⅛; Wheal Edward, 7⅛; Lady Bertha, 23s. 6d.

TUESDAY.—Par Consols, 19¼, ex div.; Sortridge Consols, 2¼; Wheal Edward, 7¼; Mariquita, ⅝.
WEDNESDAY.—Wh. Edward, 7⅝ to 7¼; Cobre Copper, 39 to 40; Mariquita, ⅝.
THURSDAY.—Alfred Consols, 14⅛; Tincroft, 3½; Cobre Copper, 39; Lusitanian, ⅝.—Transactions, though not officially marked: Wheal Zion, ⅝; Alfred Consols, 14⅛; Tincroft, 3⅝.
FRIDAY.—Sortridge Consols, 2; Wheal Edward, 7¼ to 7⅛; Linares, 8¼; Mariquita, ⅝; United Mexican, 3⅝.

The following are the Government Returns of the exports of articles identified with mining, the produce and manufacture of Great Britain, for the ten months ending Oct. 31 and also as compared with the corresponding ten months of 1856; extracted from the "Accounts relating to Trade and Navigation," published by the Board of Trade:—

DECLARED VALUE FOR THE TEN MONTHS ENDING OCTOBER 31.

| | 1856. | | 1857. | Increase. |
|---|---|---|---|---|
| Coals and culm | £2,455,556 | | £2,760,916 | £305,360 |
| Hardwares and cutlery | 3,039,236 | | 3,425,651 | 386,415 |
| Machinery:—Steam-engines and parts | £ 652,773 | £905,331 | | |
| Other sorts | 1,595,475 = 2,248,248 | 2,417,780 = 3,323,111 | | 1,074,863 |
| Metals:— Total | £7,743,040 | | £9,509,678 | £1,766,638 |
| Iron—Pig | £1,191,934 | £1,445,558 | | |
| Bar, bolt, and rod | 5,369,984 | 5,535,619 | | |
| Wire | 160,457 | 198,588 | | |
| Cast | 588,369 | 642,909 | | |
| Wrought | 3,152,480 = 10,463,224 | 3,446,327 = 11,269,101 | | 805,877 |
| Steel, unwrought | 608,764 | 681,204 | | 72,440 |
| Copper—Unwrought | 544,912 | 719,123 | | |
| Sheet, nails, &c. | 1,363,119 | 1,487,301 | | |
| Wrought | 163,195 = 2,076,226 | 351,308 = 2,557,732 | | 481,506 |
| Brass | 94,865 | 115,867 | | 21,002 |
| Lead, pig, sheet, shot, &c. | 510,416 | 508,296 | | |
| Lead ore, litharge, &c. | 130,525 = 640,941 | 160,877 = 669,173 | | 28,232 |
| Tin, unwrought | 194,001 | 269,004 | | |
| Tin-plates | 1,158,393 = 1,352,394 | 1,408,625 = 1,677,629 | | 325,235 |
| Grand total | £22,979,454 | £26,480,384 | | £3,500,930 |

At South Caradon Mine meeting, on Tuesday, the accounts for the two months ending August showed—Balance last audit, 1309l. 13s. 3d.; copper ores sold, Aug., 4955l. 0s. 8d.; Sept., 4612l. 14s. 1d.; received of West Caradon adventurers for ores taken in error, 20l. = 10,897l. 8s. — Mine cost, 4039l. 7s. 3d.; merchants' bills, 1048l. 7s. 9d.; lord's dues, 517l. 15s. 11d.; doctor and club, 40l. 5s.; sundries, 34l. 11d. 10d.; repairs of new steam-whim, 148l. 4s. 5d.: leaving balance in favour of mine, 5088l. 15s. 10d. The profit on the two months' working was 3759l. 2s. 7d. A dividend of 2048l., and a bonus of 512l. (10l. per share together), were declared, and 259l. 15s. 10d. carried to credit of next account. Capt. P. Clymo, jun., reported that the mine was still looking well, and had the price of ores kept up they would have divided a larger amount; but, under the present state of the market, he did not think it would be prudent to do so.

At West Basset Mine meeting, on Wednesday (Mr. Harcourt Hill in the chair), the accounts showed—Balance last audit, 5s. 2d.; advance on tribute, 400l.; copper ore sold, Oct., 3670l. 6s. 7d.; Nov., 3909l. 17s. 10d.=7980l. 9s. 7d. Mine cost and merchants' bills, Aug., 1935l. 19s. 4d.; Sept., 2420l. 18s. 3d.; poor-rate on dues, 12l. 5s. 6d.; advance on tribute, 400l.; sundries, 38l. 19s. 11d.: leaving balance in favour of mine, 3056l. 15s. 5d. A dividend of 3000l. (10s. per share) was declared, and 56l. 13s. 5d. carried to credit of next account. Capt. W. Roberts reported upon the progress making at the mine.

At Wheal Owles meeting, on Nov. 20, the accounts for July, August and Sept., showed—Balance last audit, 1589l. 2s. 11d.; tin sold, (less dues, 1-25th, 174l. 10s. 1d.), 4188l. 2s. 5d.; subsist receipts, 251l. 19s. 7d.; sundry credits, 193l. 12s. 6d. =6223l. 17s. 5d.—Labour cost, 3068l. 8s. 5d.; carriage, 157l. 7s. 10d.; merchants' bills, 1211l. 6s.; subsist advances, 263l. 19s. 1d.: leaving balance in favour of adventurers, 1431l. 16s. 1d.

At East Gunnis Lake and South Bedford Mines meeting, on Monday, the accounts showed—Balance last audit, 177l. 5s. 8d.; ore sold, 286l. 7s. 11d.; calls received, 553l. 1s. = 1015l. 14s. 7d.—Mine cost and merchants' bills, 849l. 18s. 3d.: leaving balance in favour of mine, 165l. 16s. 4d. A call of 4s. per share was made. Capt. James Phillips reported that they had four pitches working, but that they were all at high tribute, and, consequently, yielded but little profit. Should the lode in the winze now sinking in the bottom of the adit continue as at present, it would enable them to put in small parcels of high-priced ore at the next sampling; and they had every confidence that the south lode would prove very productive when cut in the deeper levels. The north lode would also soon fall into the middle lode, when they might expect a great improvement.

At Swanpool Mine meeting, on Nov. 20 (Capt. Todd in the chair), the accounts showed—Balance from last audit, 275l. 10s. 9d.; lead ore sold and carriage, 1047l. 15s.; gravel and fines, 47l. 9s. 9d.; calls received, 1434l. 2s. 4d. = 2761l. 17s. 10d. —Mine cost and merchants' bills, 2381l. 18s. 6d.: leaving balance in favour of mine, 380l. 19s. 4d. Capt. John Kitto reported that the engines, machinery, &c., were all in good repair, and the mine altogether in good working order. The dressing department, with all surface operations, were going on satisfactorily.

At Great West Sortridge Mine meeting, on Thursday (Mr. W. A. Thomas in the chair), the accounts showed—Balance last audit, 62l. 18s. 11d.; calls received since, 502l. 8s. 6d. = 565l. 7s. 5d.—Mine cost and merchants' bills, Aug., 196l. 1s. 11d.; Sept., 197l. 11s. 11d.; Oct., 158l. 11s. 9d.; sundries, 11l. 18s. 11d.: leaving balance in favour of mine, 1l. 2s. 11d. A call of 2s. per share was made. Capt. J. Richards reported upon the several points of operation in the mine.

At Bedford United Mine special meeting, on Monday (Mr. J. F. Williams in the chair), the report presented at the shareholders' meeting at Exeter, on Oct. 16, and the reply of the committee of management thereto, having been read, it was proposed by Mr. W. A. Thomas, seconded by Mr. A. C. Duncan, that the committee's reply be received and adopted, and that the business of the company be conducted in London as heretofore. To this an amendment was proposed by Mr. G. Down, seconded by Mr. W. Mortimer, that the report of the Exeter committee be received and adopted: that the London offices be closed; that the services of the present secretary, purser or manager, and clerks, be dispensed with; that the second captain, for the salary now paid him, be required to keep all necessary accounts at the mine, under the control of Captain Phillips; that future meetings be held in Exeter; and that a purser be appointed at a salary not exceeding 150l. per annum, to discharge all the duties now performed by the secretary and manager. The amendment was negatived by 13 shareholders, holding 498 shares, against 2 shareholders, holding 36 shares; whereupon a scrutiny was demanded, and for the amendment Messrs. Mortimer and Down brought forward proxies representing 1562 shares, and against it Messrs. W. A. Thomas and Wolferstan proxies for 729 shares, the amendment being thus carried by a majority of 371 votes. Mr. J. B. Wathen entered a protest against the submission of the original resolution, or of the amendment, that "because they both contain matters not contemplated by the notice convening this special meeting, and are, consequently, in direct contravention to rule 14 of the company's rules and regulations."

At South Tolgus Mine meeting, on Tuesday, the accounts showed—Balance last audit, 153l. 9s. 2d.; mine costs and merchants' bills, September and October, 2346l. 5s. 11d. = 2499l. 15s. 1d.—Ores sold Sept. (less dues), 2354l. 11s. 4d.: leaving balance against adventurers, 145l. 3s. 9d.

At the Penstruthal Mine meeting, on Tuesday, the accounts showed—Balance last audit, 706l. 12s. 4d.; labour cost, Aug., Sept., and Oct., 493l. 18s. 5d.; merchants' bills, 281l. 15s. 11d. = 1482l. 6s. 8d.—Calls received, 720l.: leaving balance against mine, 762l. 6s. 8d. A call of 13s. per share was made. Capts. John Little and Thos. Pryor reported the progress which they had made since the previous meeting, and their report was considered satisfactory.

At East Balleswidden Mine meeting, on Nov. 20, the accounts showed—Balance last audit, 175l. 6s. 9d.; labour cost, May to Sept., inclusive, 649l. 7s. 6d.; merchants' bills, 110l. 15s. 10d.; lord's dues (1-24th), 25l. 11s. 3d.; surgeon and club, 7l. 10s. 6d.; Miners' Protection Association, 3l. = 971l. 11s. 10d. — Calls received, 313l. 10s.; tin sold, 613l. 11s.: leaving balance against mine, 145l. 10s. 10d. A call of 2l. per share was made. Capts. John Carthew and James Thomas reported that they were sinking the new shaft below the 28, on the new flat lode; and when that shaft was 10 fms. deeper they would only have to extend some 5 fms. to be under the tin ground in the 17 and 28. They were also extending the 28 east on the old flat lode, in which there was a good branch of tin. The mine, on the whole, was now looking very promising.

At West Alfred Consols meeting, on Thursday (Mr. G. A. Ashton in the chair), the accounts showed—Balance last audit, 624l. 6s. 4d.; labour cost, August, 43l. 12s. 2d.; Sept., 542l. 0s. 5d.; merchants' bills, 416l. 13s. 10d.; expenses of a committeeman to the mine, 10l. 10s.; various expenses, including committee, secretary, rent, stationery, postages, &c., for four months, 37l. 17s. 5d. = 2058l. 0s. 2d.—Call made Sept. 30, 622l. 18s. 8d.; copper ore sold, 761l. 19s. 7d.; lead ore sold, 14l. 13s. 11d.: leaving balance against adventurers, 658l. 8s. A call of 12s. 10d. per share was made. The committee were re-appointed for the ensuing two months, with a vote of thanks.

At North Downs meeting, on Monday, a call of 10s. per share was made.

At Great Crinnis Mining Company meeting, on Thursday (Mr. England in the chair), the accounts showed—Balance against adventurers, 2372l. 10s. 5d. A resolution was passed to wind-up the company forthwith, and dispose of the property. The proceedings, which are very fully reported in another column, terminated with a vote of thanks to the Chairman and committee.

At West Par Consols Mining Company meeting, on Tuesday (Mr. S. W. Dawkes in the chair), the accounts showed a balance in favour of adventurers of 102l. 4s. 2d. The meeting was made special, for the purpose of disposing of the forfeited shares, when 500 were ordered to be restored and registered, the arrears (125l.) having been paid. It was agreed to adjourn both the general and special meeting until Jan. 7, to avoid the necessity of making a call, to give the defaulters an opportunity of paying up their arrears, and to restore those already forfeited. The proceedings, which are reported in another column, gave evident satisfaction to a very full meeting, and closed with votes of thanks to the Chairman and Capt. Webb.

At Wheal Harriett special general meeting, on Monday (Mr. Dampier in the chair), the report of Capt. Chas. Thomas was adopted, and a resolution passed to forfeit 300 shares in arrear of call made Aug. 6. The proceedings, which are reported in another column, terminated with a vote of thanks to the Chairman.

At Bryntail Mine meeting, on Nov. 20 (Mr. John Cumberland in the chair), the accounts showed—Calls received, 450l. 15s.; lead sold, 143l. 8s. 6d.; received rent of Dolenog house and lands, 17l. 10s. = 611l. 13s. 6d. — Balance last audit, 180l. 14s. 9d.; mine cost, June to Sept., inclusive, 526l. 1s.; lord's dues paid, 41l. 9s.; interest, discount, &c., 10l. 11s. 11d.: leaving balance in favour of mine, 32l. 16s. 10d. A call of 5s. per share was made. The committee were re-elected, and Mr. Thos. P. Thomas added thereto. Capt. James Roach submitted a correct plan of the mine, and a full report on the operations thereat: it is generally considered that the eastern ground would produce large bodies of ore. Price for driving cross-cut, 3l. 10s. per fm. There was no alteration in the stuff since last month.

At a meeting of Molland Mine shareholders, convened on Nov. 19, some doubt having been expressed as to its legality, as not being in strict conformity with the 6th clause of the rules and regulations entered on the cost-book, it was adjourned. A meeting of the committee was subsequently held, at which a call of 1s. per share was made.—A special general meeting was held on Thursday last, when a statement was presented, showing the amount of assets over liabilities, after providing for Nov. cost, and the erection of engine, to be 255l. 6s. 11d., the payment for the engine not being due until Feb. and April, 1858. The proceedings of the committee, held on Nov. 19, at which a call of 1s. per share was made, in accordance with a clause in the rules and regulations of the company, were confirmed. [The agent's report appears among the Mining Correspondence.]

The Linares Lead Mining Company have a report from Spain to Nov. 14:—POZO ANCHO: West of the engine-shaft: The end in the 85 is still unproductive. The lode in the 75, west of Ramon's winze is worth ½ ton per fm. The lode in Carrilio's winze is small, and produces about ½ ton per fm. The lode in the 65, west of Richard's winze, is still disordered by the cross-course, and is unproductive.—At Warne's engine shaft the lode is not so good as it was, it is now worth 1½ ton per fm. The end in the 31, west of Diego's winze, is improving, and is now producing 2 tons per fm. The lode in the new winze under the 20 is large, and is spotted throughout with lead, but not enough to value.—East of Engine-Shaft: The lode in the 85, east of Navarra's winze, is large, and contains stones of lead, but not enough to value. The same may be said of the 75, east of Shaw's shaft. The 65, driving east of Collejon's, is worth 1 ton of lead ore per fm. Cordova's winze, sinking in the 55, and in advance of the last-named end, is worth 1½ ton per fm. The 65, driving east from Lucas's winze, has been communicated with the end driving west from the bottom of Thorne's shaft; the lode at the point of communication was worth 1½ ton per fm. The 65, driving east of Thorne's, is worth 1 ton per fm. We have put a pare of men to drive west of Lucas's winze, where the lode is worth 2 tons per fm. We have put some men to cut a plat at Thorne's shaft, so as to be able to remove the penthouse and throw down the machine kibble, which will save a great deal of manual labour.—Fernando's Winze: The lode in this winze is large, consisting of calcareous spar and lead, worth 1 ton of the latter per fm. The lode in the 35, east of Taylor's cross-cut, has a kindly appearance, and is at present worth ½ ton per fm. The cross-cut driving south in the 31 is without any alteration worthy of notice since last reported on.—North Lode: The lode in Taylor's shaft is large, and is worth 2 tons per fm. The lode in the 45 is producing ½ ton per fm., and promises further improvement. The cross-cut driving north is holed to the 45, west of Field's shaft. We shall put the men to drive east on the branch met with in the cross-cut mentioned in our last report; we have already set a pare of men to drive west on the same branch. The lode in the 31, east of Field's cross-cut, is still unproductive. The lode in Gomez winze is not so good as it has been, it is now worth 1½ ton per fm.—Field's Lode: The 45, east of shaft, is worth ½ ton per fm. The lode in the 31, east of shaft, is small, and is worth ½ ton per fm. The lode in Justos winze has declined in value, it is now worth ½ ton per fm. The cross-cut north in the 31 is holed to the level east of Field's cross-cut. The lode in the 20, east of Field's shaft, still holds good, and is worth 1½ tons per fm. The tribute pitches throughout the mine are yielding fair quantities of ore. The surface operations are going on satisfactorily.

The Fortuna Mining Company have a report from Linares to Nov. 16:—CANADA INCOSA.—West of Engine-shaft: The lode in the 6th level, east of El Clavel winze, is at present unproductive. The lode in Las Canas winze is large, and worth 1½ ton per fm. for lead ore. The lode in the end of the 5th level, east of San Francisco winze, is more open than it has been, and appears likely to improve; its present value is 1 ton per fm. The lode in the 5th level, west of Buen Provechio winze, is worth 1 ton per fathom. There is an increase in the water coming from the cross-cut in the 3d level, west of the cross-course. The lode in Oveidos winze is worth 1 ton per fm.—East of the Engine-shaft: The lode in the end of the 5th level, east of Purgatoria winze, carries spots of lead ore, but is not to value. The lode in La Esperanza winze is worth ½ ton per fm. The lode in the 4th level, east of Fortuna winze, contains spots of ore, but not to value. The lode in Garcia's winze is worth 2 tons per fm. The lode in the end of the 3d level, east of Kennedy's shaft, is at present not to value. The lode in the 2d level, east of Lowndes' shaft, is unproductive at present.—LOS SALIDOS—West of the Engine-shaft: The lode in the 3d level, west of the samp-winze, is worth 1½ ton per fm. The lode in the bottom of Alvina's winze, sinking below the 2d level, is worth ¾ ton per fm.—East of the Engine-shaft: The 3d level, east of La Luz winze, was extended in Oct. 3 fms. 2 ft. 4 in., and holed to the old men's workings. The men have been set to stope for a level; the lode in the stope is at present worth 4 tons per fm. The lode in San Gabriel shaft is kindly, and worth 1½ ton per fm. The end in the 2d level, east of Serron's winze, has been productive during the greater part of the month, but is now not to value. Cologan's winze, sinking below the 1st level, is down the required depth for a 2d level, which has been set to drive east on a kindly, but at present unproductive, lode, and west on a lode worth ½ ton per fm. The tribute pitches throughout the mines are much as usual, and we estimate our returns for the four weeks of Nov. at 195 tons.

The Pontgibaud Mining Company have a report from Capt. Rickard to Nov. 21:—PRANAL: The rise in the back of the 70 metre level, south of St. Martin's shaft, on the Amantine lode, proceeds satisfactorily; we are now up 5 metres from the back of the level, and for that height the lode is same in character and value as the level under that place—producing 1½ ton of ore per fm.; the holing of this rise to the 50 we look forward to with great interest, as it appears to be the last of the dangerous jobs we shall have for some time, and will complete the laying open of the runs of ore wrought on in the shallow levels to the bottom of the mine. The 70, south of Bontoux's shaft, continues orey, producing 1 ton of ore per fm., but we are driving on the eastern part of the lode only. The 30 metre level, north of the No. 1 rise, on the Henri lode, is still opening well; we estimate it worth 1½ ton of ore per fm.—BARBECOT: The 20 metre level, north of Leontine's shaft, is same as last reported, and the same may be stated of the other bargains in this part of the mine and at Brot.—MIOCHE: The 40 metre level, north of Taylor's shaft, continues to look well, and is turning out 1½ ton of ore per fm. The winze sinking in the bottom of the 20, on No. 3 lode, is down 14 metres, and still produces 2 tons of ore per fm. The 20 metre level north, on the No. 6 lode, is producing ¾ ton per fm., and looks promising for a further improvement. We have undercut the western part of the No. 6 lode in the 20 for a length of 40 metres in stoping ground, which we have began taking away; and, as this part of the lode is large and good in the adit level, we calculate on good returns for a long time to come.—ROSIER: The sinking of John's engine-shaft proceeds rapidly, but I have no change to mention in any of the levels in this section of the mines. The stopes and tribute pitches about St. Joseph's shaft continue to yield fair quantities of ore.—ROUKE: The 20 metre level, south from St. Peter's shaft, on the Emily lode, has laid open a good piece of stoping ground for the last 20 metres driven, but we have suspended it for some time to take up a stope at the back. The trial cross-cut, driving east from St. Peter's, in the deep adit level, has, for the 5 or 6 metres driven, intersected a great many bunches of lead ore and carbonate of lead, crossing in all directions, and we are daily expecting to cut the leading part of a lode; the stuff broken in the cross-cut will pay well for dressing. The deep adit level, south of Agnes' shaft, on the eastern part of the lode, has improved since my last, and is now worth 2 tons of ore per fm. The winze sinking in bottom of the deep adit level, north from Agnes' shaft, is still looking well, and yielding upwards of 4 tons of ore per fm. The side lode in the Stollen is not so rich as last reported, but is still large and kindly, and producing 2 tons of ore per fm. We have lately began a level south-west from the Stollen to prove the western part of the lode, and have already reached a very kindly lode, 3 ft. wide, and well marked, being composed of quartz, gossan, carbonate of lead, and galena, worth for the latter ½ of a ton per fm. Our stopes throughout the mines maintain their quality, and everything is in good working order.

The Liberty Mining Company of Virginia have advices, dated Nov. 7:—I am happy to say all is going on well, and much better than I had hoped. A bar of gold was deposited in the bank on Oct. 7, which realised $1225·90 (245l. sterling), and on Wednesday next I shall take another bar, which will be quite equal to it—thus we are paying our way, and are not incurring any fresh debts. I have surveyed the new openings at Diamond branch, which is a large hill of new ore, all of which can be taken down with pick and shovel, requiring no blasting whatever, and which we can get out without trouble to the depth of 60 feet, until we come to water. There is sufficient ore here to last three years; the greater part of our small mining force is now employed at these new workings, and only a few at the middle branch; the Poplar branch and centre shaft we have left for future operations. Our prospects of permanent success were never so good as now, they are far beyond what I could in any way have hoped for. If with my present small number of hands (19 only) I can pay my way, what may I not do if I am enabled to double my mining force, run the stamps 22 hours a day, instead of 10 hours as now, and have the means to raise the neccessary ore?

The Wildberg Great Consolidated Mining Company have advices, dated Nov. 21:—Michael's shaftmen have completed the cutting of the cistern plat in the bottom of the sink, and are now employed taking down some ground above Umbruck's level, in order to form a junction with the downright and underlie parts of the shaft. Driving west from the bottom of this shaft is worth 2 tons of silver-lead ore per lachter. The deep adit, driving east from the Turken sink, is unproductive at present, but I hope we shall soon reach the rich shoot of ore which was worked by the old men from the levels above. The deep cross-cut, driving north from Carter's shaft, is being pushed on as fast as possible, but there is no sign at present of the footwall of the Gottes Hulfe lode. We shall therefore commense on Monday next to haul out the water from the Gottes Hulfe sink, that we may dial the ground and ascertain where to start to drive west from the deep cross-cut, in order to get under the course of ore which is going down from the level above. The newly discovered ore in the cross-cut south from No. 1 sink, in Umbruck's level, is not quite so good as when last reported, the lode being at present somewhat disordered. All other bargains throughout the mine are just as last reported, and the surface work is proceeding satisfactorily. Only 28 tons 9 cwts. have been sampled to the smelting works for the first half of the month; this is cobbed ore only, as we find it will be much more economical to sample the washed ore once in the month instead of twice.

By Mr. Westgarth's Circular for the present month, and issued in consequence of the receipt of newspapers from the Australian colonies, we find in reference to monetary matters at Melbourne that "the demand for money had much increased during the interval since the previous mail, so that the rates of 10 to 12½ per cent. were readily obtained on fair securities, while prior mortgages on first-class real estate commanded from 8 to 10 per cent. The share market had been unfavourably affected, and some leading stocks had very markedly declined. Bank of Victoria fell to 40, but recovered to 42½; Hobson's Bay Rail touched 78½, with recovery to 80; Colonial Insurance, in spite of a late flourishing report, and large dividends, had fallen from 48s. to 35s., and Victoria Insurance to 40. The New Australasian Fire and Life still maintained a premium of 7s. 6d. to 12s. 6d. on 1l. paid per share. The Gas Company stood at 50 per cent. premium; Victoria Six per Cents., short periods, were done at 102¾—long dates, at 105—and Melbourne Corporation, 104½, purchasers paying accrued interest besides; with, however, but few operations in any of these Government securities. The banks have agreed upon an alteration of the usance of exchange on London to 60 days' sight instead of 30 days. They continue to issue at the same rate as before—2 per cent. pm., which is equivalent to a rise in the premium of ¼ per cent. Drafts of 50l. and under at 30 days, and charged 2½ premium." The estimated revenue of Victoria is set down at 3,005,180l.; the amount in 1856 having been 2,992,150l., and 2,738,095l. in 1855.

In American Securities, there has been more business doing than for some weeks previously. State stocks have been more freely offered, and some considerable purchases have been made of Pennsylvania and Virginia bonds for investment. In railroad bonds there have been but few actual transactions, excepting in those of the Illinois Central Railroad, for which there has been a fair demand. There has been some enquiry for the bonds of the New York and Erie Railroad Company, but few are offering for sale.

THE TIN TRADE, AND THE SMELTERS.—In consequence of the great fall in tin, it is proposed to have a meeting of the purseers of tin mines, upon the ground that the present state of tin prices demand their immediate and anxious attention, as there is nothing in the actual condition or future prospects of tin mines to warrant despondency, much less to justify a panic, or a resort to hasty measures of relief. The demand for tin during the last two years has been unequalled, and the price consequently ranged high. The mode of sale is such as exists in no other British commodity, being completely under the control of the smelters, who avail themselves of the unsound system, which deprives the seller of a fair control over his property. The standard adopted, and the deductions made in favour of the smelter, operate unjustly towards the miner. It is suggested that as the smelters meet periodically, the purseers should do the same, and take such measures as are necessary to free them from the control of the smelters.

## LEAD ORES.

Sold on the 21st November.

| Mines. | Tons. | Price per ton. | Purchasers. |
|---|---|---|---|
| Wheal Wrey Consols | 62 | £18 10 0 | Walker, Parker, & Co. |
| ditto | 35 | 7 1 0 | R. Michell and Son. |

Sold on the 23d November.

| | | | |
|---|---|---|---|
| Laxey | 100 | 23 1 6 | T. Somers. |
| Newtonards | 60 | 15 0 0 | Mining Co. of Ireland. |
| East Logyias | 70 | 14 17 6 | Panther Company. |
| Cwmystwith | 120 | 14 16 0 | ditto |

Ticketing at the King's Head Hotel, Holywell, 26th November.

| | | | |
|---|---|---|---|
| Penyrhenbias | 2 | 10 0 6 | Newton, Keates, & Co. |
| Westminster | 40 | 13 4 6 | Walker, Parker, & Co. |
| Maesyasfn | 30 | 13 0 0 | Newton, Keates, & Co. |
| Minera | 100 | 13 0 6 | Walker, Parker, & Co. |
| ditto | 100 | 12 18 6 | Newton, Keates, & Co. |
| ditto | 7⅛ | 12 18 0 | A. Eyton. |
| ditto | 7⅛ | 12 18 0 | Walker, Parker, & Co. |
| ditto | 7⅛ | 12 18 0 | Newton, Keates, & Co. |
| ditto | 3 | 18 0 6 | ditto |
| Steddfod | 10 | 13 6 0 | ditto |
| Park | 15 | 13 7 6 | A. Eyton. |
| Dyliffe | 64 | 13 9 6 | Walker, Parker, & Co. |
| Llanerchyr-Aur | 13 | 13 10 6 | ditto |
| French Ore | 35 | 11 7 0 | Newton, Keates, & Co. |
| Lower Steddfod | 8 | 13 2 6 | A. Eyton. |
| ditto | 2 | 17 10 6 | Walker, Parker, & Co. |
| Catherine and Jane | 21 | 13 5 0 | A. Eyton. |

## BLACK TIN.

Sold on the 21st November.

| Mines. | Tons c. q. lb. | Price per ton. | Amount. | Purchasers. |
|---|---|---|---|---|
| Great Wheal Vor | 19 5 2 19 | £62 10 0 | £1205 4 6 | Mellanear. |
| ditto | 4 16 2 11 | 41 0 0 | 198 0 6 | ditto |
| ditto | 17 19 1 14 | 62 10 0 | 1123 1 0 | Chyandour. |
| ditto | 9 9 3 6 | 39 10 0 | 374 17 0 | ditto |
| Wheal Trevelyan | 2 8 1 0 | 59 10 0 | — | Bolitho. |
| ditto | 0 9 1 21 | 42 0 0 | — | ditto |

## COPPER ORES.

Sampled November 4, 1857, and sold at Swansea November 24, 1857.

| Mines. | Tons. | Produce. | Price. | Mines. | Tons. | Produce. | Price. |
|---|---|---|---|---|---|---|---|
| Cobre | 86 | 13⅝ | £12 4 6 | Cobre | 45 | 21¾ | £19 16 6 |
| ditto | 73 | 13⅜ | 12 2 6 | ditto | 43 | 20½ | 18 18 0 |
| ditto | 42 | 23¾ | 21 7 6 | ditto | 12 | 63⅜ | 59 5 0 |
| ditto | 39 | 24 | 21 18 6 | Berehaven | 118 | 9¼ | 8 10 0 |
| ditto | 85 | 12⅜ | 11 2 6 | ditto | 117 | 10¼ | 9 3 0 |
| ditto | 80 | 12⅜ | 11 1 6 | Knockmahon | 52 | 10⅜ | 9 8 0 |
| ditto | 79 | 13⅜ | 11 1 6 | ditto | 51 | 10¼ | 9 6 0 |
| ditto | 76 | 12⅜ | 11 2 6 | Molland | 11 | 4 | 2 18 0 |
| ditto | 46 | 21½ | 19 17 6 | | | | |

TOTAL PRODUCE.

| | | | |
|---|---|---|---|
| Cobre | 706 | £10571 8 6 | Knockmahon 103 £ 963 2 0 |
| Berehaven | 235 | 2073 11 0 | Molland 11 31 18 0 |

COMPANIES BY WHOM THE ORES WERE PURCHASED.

| | Tons. | Amount. |
|---|---|---|
| P. Grenfell and Sons | 149 | £1408 6 6 |
| Sims, Willyams, Nevill, and Co. | 68½ | 1049 17 0 |
| Vivian and Sons | 253½ | 2298 0 0 |
| Williams, Foster, and Co. | 122 | 1759 15 0 |
| Mines Royal Company | 85 | 945 12 6 |
| British and Foreign Copper Company | 297 | 5292 8 6 |
| F. Bankart | 80 | 886 0 0 |
| Total | 1055 | £13,639 19 6 |

Copper ores for sale at Swansea, Dec. 15.—Cobre 509—Chili 200—Peninsular 199—Spanish 122—Spanish 83—Great Barrier 70—Namaqua 39—London Slag 31—Adelaide 29—Bampfylde 20—South Australian 11—Wildberg 10—Genoa 2—Bahama 2.—Total, 1327 tons.

AVERAGES.

| | Produce. | Price. | Standard. |
|---|---|---|---|
| British | 9¾ | £ 8 15 0 | £113 13 6 |
| Foreign | 16¾ | 14 19 6 | 103 14 0 |
| Sale | 14¾ | £12 18 6 | £105 19 6 |

Totals—British, 349; Foreign, 706=1055 tons (21-cwts.)

AVERAGES OF LAST SALE.

| | Produce. | Price. | Standard. |
|---|---|---|---|
| Foreign (1034 tons) | 16 | £14 19 0 | £107 12 0 |

## COPPER ORES.

Sampled November 11, and sold at Tabb's Hotel, Redruth, November 26.

| Mines. | Tons. | Price. | Mines. | Tons. | Price. |
|---|---|---|---|---|---|
| United Mines | 100 | £2 11 6 | St. Day United | 34 | £6 4 6 |
| ditto | 91 | 2 12 0 | ditto | 14 | 5 3 6 |
| ditto | 71 | 6 15 0 | ditto | 1 | 37 6 0 |
| ditto | 70 | 4 14 0 | Great Crinnis | 83 | 2 11 0 |
| ditto | 69 | 3 12 6 | ditto | 75 | 3 18 6 |
| ditto | 57 | 3 2 0 | ditto | 35 | 11 1 0 |
| ditto | 44 | 4 2 0 | Craddock Moor | 101 | 9 0 6 |
| ditto | 27 | 3 10 6 | ditto | 84 | 7 18 6 |
| ditto | 22 | 0 3 6 | South Crinnis | 72 | 3 11 6 |
| ditto | 2 | 27 0 0 | ditto | 54 | 4 12 6 |
| Great Wh. Busy United | 84 | 3 5 6 | ditto | 44 | 11 10 6 |
| ditto | 81 | 1 7 0 | Gonamena | 68 | 5 4 0 |
| ditto | 79 | 2 6 0 | ditto | 60 | 8 7 6 |
| ditto | 74 | 1 6 6 | ditto | 23 | 3 7 0 |
| ditto | 70 | 6 4 0 | Wheal Ellen | 91 | 2 10 6 |
| ditto | 63 | 1 1 0 | ditto | 19 | 9 2 0 |
| ditto | 58 | 2 18 0 | ditto | 6 | 2 1 0 |
| Fowey Consols | 95 | 5 4 6 | South Wheal Ellen | 36 | 3 12 0 |
| ditto | 79 | 6 5 0 | ditto | 22 | 1 18 0 |
| ditto | 78 | 4 13 6 | ditto | 25 | 9 0 6 |
| ditto | 72 | 6 11 6 | Consolidated Mines | 44 | 4 11 6 |
| ditto | 65 | 6 1 6 | ditto | 18 | 1 1 6 |
| ditto | 34 | 6 2 0 | ditto | 1 | 45 13 0 |
| South Caradon | 79 | 10 4 6 | Perran St. George | 35 | 2 4 6 |
| ditto | 71 | 6 7 6 | ditto | 10 | 1 2 0 |
| ditto | 63 | 20 3 6 | ditto | 9 | 3 0 0 |
| ditto | 62 | 6 1 0 | North Wheal Busy | 31 | 6 1 6 |
| ditto | 41 | 5 0 0 | Trethellan | 21 | 1 16 6 |
| ditto | 40 | 9 15 0 | Wheal Henry | 17 | 13 13 6 |
| ditto | 23 | 3 13 6 | Great Wheal Leisure | 16 | 2 8 6 |
| St. Day United | 66 | 7 4 6 | Treviskey United | 15 | 1 19 6 |
| ditto | 65 | 3 16 6 | Wheal Cupid | 11 | 6 7 0 |
| ditto | 45 | 3 0 6 | East Wheal Leisure | 9 | 1 17 6 |
| ditto | 42 | 4 10 0 | Basset Consols | 7 | 1 17 6 |
| ditto | 36 | 4 2 0 | Perran United | 4 | 1 9 0 |

TOTAL PRODUCE.

| | | | | | | |
|---|---|---|---|---|---|---|
| United Mines | 553 | £2062 12 0 | Consolidated Mines | 63 | £ 266 | 6 0 |
| Great Wheal Busy | 506 | 1328 11 6 | Perran St. George | 54 | 115 | 17 6 |
| Fowey Consols | 423 | 2430 9 0 | North Wheal Busy | 31 | 188 | 6 6 |
| South Caradon | 397 | 3770 2 0 | Trethellan | 21 | 38 | 6 6 |
| St. Day United | 303 | 1519 12 0 | Wheal Henry | 17 | 232 | 9 6 |
| Great Crinnis | 193 | 892 15 6 | Great Wh. Leisure | 16 | 38 | 16 0 |
| Craddock Moor | 185 | 1577 4 6 | Treviskey United | 15 | 29 | 12 6 |
| South Crinnis | 170 | 1014 5 0 | Wheal Cupid | 11 | 69 | 17 0 |
| Gonamena | 151 | 933 3 0 | East Wh. Leisure | 9 | 16 | 17 6 |
| Wheal Ellen | 116 | 414 19 6 | Basset Consols | 7 | 13 | 2 6 |
| South Wheal Ellen | 90 | 410 6 6 | Perran United | 4 | 5 | 16 0 |

Average Standard ..... £124 12 0 | Average Produce ..... 6¾
Average Price per ton ..... £5 4 0
Quantity of Ore ..... 3335 tons | Quantity of Fine Copper, 213 tons 1 cwts
Amount of Money ..... £17,369 8 0
LAST SALE.—Average Standard ..... £124 19 0.—Average Produce ..... 6½
Standard of corresponding sale last month, 132l. 8s.—Produce 6¾.

COMPANIES BY WHOM THE ORES WERE PURCHASED.

| | Tons. | Amount. |
|---|---|---|
| Mines Royal Company | 158 | £ 859 14 4 |
| Vivian and Sons | 467 | 2526 12 6 |
| Freeman and Co. | 348 | 1312 1 10 |
| Grenfell and Sons | 607 | 2245 6 6 |
| Sims, Willyams, Nevill, and Co. | 454 | 2005 9 5 |
| Williams, Foster, and Co. | 474 | 4201 1 6 |
| Mason and Elkington | 577 | 2608 18 6 |
| F. Bankart | 37 | 172 17 8 |
| Copper Miners' Company | 191 | 1369 4 6 |
| C. Lambert | 22 | 68 1 3 |
| Total | 3335 | £17,369 8 0 |

Copper ores for sale on Thursday next, at Tabb's Hotel, Redruth.—Mines and Parcels.—West Seton 525—Wheal Basset 502—Tincroft 373—East Pool 345—Wheal Clifford 235—Wheal Seton 198—Condurrow 192—South Crofty 143—North Pool 134—Dolcoath 115—Camborne Vean 80—North Roskear 40—East Basset 39—Wheal Trefusis 22—Stray Park 20—Wheal Kitty 20—Eny's Ore 9—East Trefusis 8=3000 tons.

Copper ores for sale on Thursday week, at Tabb's Hotel, Redruth.—Mines and Parcels.—Wheal Buller 586—West Basset 502—Great South Tolgus 370—Alfred Consols 325—Par Consols 307—North Basset 282—Carn Brea 263—United Mines 245—Great Wheal Alfred 204—Duke of Cornwall 120—Wheal Charlotte 88—South Crenver 79—Rosewarne United 78—Botallack 75—Wheal Trebarvah 74—Wheal Tehidy 62—Carvannall 56—East Alf

THE PROGRESS OF MINING IN 1856.
BEING THE THIRTEENTH ANNUAL REVIEW.
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INVESTMENTS IN BRITISH MINES.—Mr. MURCHISON'S REVIEW OF BRITISH MINING for the QUARTER ENDING 30th September, 1857, with Particulars of the Position and Prospects of the principal Dividend and Progressive Mines, Tables of the Dividends paid in the past Quarter, and in the Years 1855 and 1856, is NOW READY, price 6d., at Mr. Murchison's offices, 117, Bishopsgate-street Within, London.

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LONDON DIRECTOR'S (Hannibal Hollow, Esq.) REPORT OF WHEAL BLUE BOTTLE, where and when he made among other un-important discoveries, that miners belonged to "the tribe of Gad;" that they were decided vegetarians, often "going to grass" for their food, and frequently partook of "taty pasties and harby pies;" also, that they blew wind into the mine with a "cow," and pumped the water out of it with a "bull;" that a whipsiderry is a mere whim, and that a congee from an engine-bob was no compliment; that they often "scratched away" upon the "old men's backs," and "fired holes" into their "bottoms." 54
All orders to be addressed to J. Russell Endean, publisher, Boscawen-st., Truro.

On the 1st of December will be published No. II. of

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## Notices to Correspondents.

*** Much inconvenience having arisen, in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be regularly *filed* on receipt: it then forms an accumulating useful work of reference.

Manganese Steel.—In your Notices to Correspondents, in last week's Journal, there is an enquiry by "S. X. S.," respecting the process of manufacturing steel by manganese: I beg to inform him that I am the patentee *for* that process, which is extremely simple and inexpensive, and the steel made from it of good quality, and applicable to most purposes. He can obtain all particulars he may require on application to me.—Charles Low: *Smelting-Works, Old Ford Wharf, Bow, Nov.* 26.

Coal and Ironstone Mining.—Having been on several occasions urgently solicited to subscribe to companies working extensive and valuable ironstone fields, badly situate, or from other causes not, in my opinion, desirable investments, and as I have frequently noticed that the shares in these companies have been taken up by others who have thereby been ruined, I would make a few remarks on the value of ironstone fields generally. In this country there are many valuable deposits of ironstone, which would be immense fortunes to their owners, provided they had coal also; but ironstone without coal is as worthless as food without appetite, and, consequently, there are proprietors of thousands of pounds worth of ironstone in comparative poverty. This would particularly apply to some estates in Northamptonshire, Sussex, Wiltshire, and elsewhere; but, happily, the facilities for transit may in time overcome, in a measure at least, these difficulties. Notwithstanding these facts, there are a few, although certainly not a many, who argue that an owner is in no worse position who has ironstone without coal than he who has coal without ironstone; but such arguments are only worthy of women, and those who entertain such an opinion will assuredly meet such a fate as their stupidity so richly deserves. The iron industry of England entirely owes its magnitude to the abundance of coal, and without coal the iron trade can nowhere flourish. It is madness to embark in an undertaking for making iron where the company, which proposes to carry out the enterprise, has not coal at command, and this will account for the precaution taken by the Great Western (Wiltshire) Iron Ore Company to secure coal fields before bringing the project before the public. The distance of the coal from the ironstone is great it is true, and the profits will be proportionately less: but yet a fair remuneration for the capital may be obtained, provided there be good management and economy. This, too, is where a railway is already constructed from one field to the other; in other cases, profits would be almost impossible. As a rule, then, I would say, have nothing to do with ironstone, unless there is abundance of coal with it, and in this I am sure that every Englishman who knows what iron is will bear me out.—Eisenstein: *Nov.* 18.

Manganese.—In answer to "W. R." (Liverpool), in the Journal of 14th inst., who wishes for information as to the actual state of the manganese mines of Dordogne (France), I am happy to inform him that in his classical work, *Le Traité de Minéralogie* (vol. ii. p. 415), M. Dufrénoy gives the following analysis of the manganese of Dordogne:—

| | | |
|---|---|---|
| Red oxide | 0·629 | |
| Oxygen evaporated | 0·189 | |
| Water | 0·112 | |
| Baritium | 0·061 | 1·000 |
| Oxide of copper | 0·001 | |
| Quartzose sediment | 0·006 | |
| Alumina and peroxide of iron | 0·062 | |

Moreover, several reports of the eminent chemists, Balard, Pelouse, and Leneeur, have officially reported that the manganese mines of Dordogne contain 2 per cent. of cobalt ore, quality such as is usually sold at from 120 to 130 fr. per kilo. These are the exact particulars of the value of the mines of Dordogne; and as to the working of them (working very easy, considering their topographical situation), I have retaken their negociation, which was interrupted for some time, with various capitalists, who have now offered their co-operation. If "W. R." is desirous of having other particulars, I shall be happy to comply with his request.—De Maligny, Ingenieur des Mines: 46, *Rue de la Victoire, Paris.*

Manganese.—Can any of your correspondents kindly inform me the current value of lump manganese, delivered at Exeter, at per ton, that will produce (at least) 60 per cent.?—Miner: *Exeter, Nov.* 23.

Safety Lamps.—Having had the opportunity of inspecting one of M. Munier's lamps, to which you referred in your last Journal, I would suggest a slight improvement, which I think important. There can be no doubt that his lamp is the simplest extant upon the self-extinguishing principle, but I question whether its simplicity does not endanger its safety. The pricker and trimmer is in every respect independent of the apparatus by which the light is extinguished, and would, therefore, be open to the objection spoken of by a correspondent in your Journal some weeks since—the wick could be raised and held up by the pricker while the lamp was opened. To overcome this obstacle I would suggest that the unlocking apparatus should be so arranged that the cotton could not be raised without manipulating a contrivance directly connected with the said unlocking apparatus; or that, in unlocking the lamp, such a grip should be taken on the cotton as should effectually draw it within the lamp.—H. J.: *City, Nov.* 22.

Can any of your readers inform me who is likely to buy a compound composed of oxide and large quantities of metallic zinc?—Subscriber: *Salford, Nov.* 25.

The Copper Trade.—As some of your correspondents continually complain that the smelters act most unjustly towards the miners, perhaps they would have no objection to explain by what means the miners are to be benefited by having the smelting operations also under their care. I contend that the greater the monopoly existing the higher will be the price of metal, and, consequently, the better will be the position of the miner. By introducing more competition into the copper trade, the consumers alone would benefit, as the only effect that could be produced would be a reduction of 20 per cent. in the price of copper. By this change, as a large amount of copper is exported, much money which is now expended in this country would go to enrich foreigners.—C. J. W.: *Nov.* 26.

Protecting Mine Shafts.—In your Journal of Oct. 31 I observe a notice of an invention by Mr. W. Reid, Shettleston, Lanarkshire, for "protecting the mouths of mine shafts." Mr. Reid, doubtless, is not aware that a similar invention to the one described by him has been in use, for at least twelve years, at several of the collieries in the county of Durham.—Reader.

Lubricators.—Having noticed that a patent was applied for by Messrs. Jones and Edwards for a lubricator, which certainly appears anything but simple in its construction, I take this opportunity of enquiring whose invention it was that consisted of a revolving cup, by which the oil was discharged to the part to be lubricated at each revolution by two apertures being brought opposite to each other? I think if these lubricators were more generally advertised and made known, they would be readily adopted, but, as it is, few have used them, and a valuable invention is thus allowed to sink into oblivion, without any endeavour being made to secure any advantage to the inventor or the public.—D. F.: *Manchester, Nov.* 24.

Manufacture of Cast-steel.—In the discussion which has recently taken place in your Journal relative to the manufacture of cast-steel by the atomic process, it appears that one of the most necessary items of success is the use of spathose ironstone. Now, as I have heard but very little of this description of ore in the United Kingdom, I should be glad to learn in what district it is found, and think the readiest means of doing so is to request some of your correspondents to give the information through your columns. With spathose ore I see no difficulty in the way of carrying out the atomic process under one patent, but if there be none, or comparatively none, of that ore, I fear it must remain a dead letter, until in the science of chemistry many more discoveries have been made. I was glad to read that the Ebbw Vale Company were the possessors of the several patents which have been alluded to, as I think that by using Uchatius's patent for making steel, and others for bringing the iron into a fit state for steel-making, satisfactory results will be obtained.—Maitre de Forge: *Ardennes, Nov.* 21.

"Nip" (Worsley) can obtain the information required on reading our advertisements.

Smelters' Monopoly.—"A. B. C." can have read your Journal to little purpose when he advocates that an association should be formed for the purpose of battling with the Swansea smelters. The question of independent copper smelting has been discussed fully in your Journal in 1845, 1848, 1850, and lastly in 1856, when the smelters played such fantastic tricks with the copper trade. It was, however, of no avail: the smelters knew their strength, and would not leave their entrenchments, while the mining interest looked on with apathy, and took no steps to release themselves from the thrall under which they had so long laboured. The Cornish miners can never be united: there are some few who are swayed by worthier motives, but in general (and examples have proved it) public good is sacrificed to individual interest. The smelters know that the Cornishmen are incapable of combination, and, therefore, laugh at vague and impotent threats to disturb the monopoly they have so long enjoyed.—X. Y. Z.: *Nov.* 26.

Mining Share Dealings.—From your last Journal, I learn that the case between Mr. Stockwell and Lord Clinton is to be again revived; and although the effect of such a course may bring the matter to a more satisfactory conclusion as respects the actual position of Lord Clinton and Mr. Jeffree, I think that, for the good of the mine and of mining, it would be better to let the matter drop. The public have, I think, a very similar opinion of the causes which led to steps against Lord Clinton as will be entertained when all has been heard, and, therefore, Mr. Stockwell and his opponents could honourably withdraw. It is well known that, where any unsatisfactory proceedings can be connected with a mine, every endeavour is made to exaggerate the difficulty, and to show that similar instances are always occurring in mining. Could it not be arranged that the case be submitted to an arbiter, and so disposed of without coming before the world? for surely a private quarrel could be settled much more satisfactorily in that manner than in a Court of Law. The arbiter's award might be published, and then all would be satisfied.—A Shareholder.

Anglo-Californian Gold Mining Company.—The long vacation has terminated, yet neither liquidators nor directors condescend to inform us on what terms they have compromised with Sir Henry Huntley; or whether the claims of Mr. Jas. Dugan, of Kerry, are paid off?—Premium: *Poole, Nov.* 24.

Queen's College, Liverpool.—In your last week's Notices to Correspondents it was stated that "Dr. Muspratt refused the Professorship of Chemistry in this College." It is due to those of your readers who may have been misled by the statement, that they should be rightly informed. The Council of Queen's College never had the least wish to see the Chemistry Chair occupied by any other than the talented gentleman who now fills it—Professor Hamilton. They took no step to obtain the services of any other gentleman for the professorship, and no communication at all, in reference to the College, ever passed between the College authorities and Dr. Muspratt. Your correspondent's singularly minute and extensive information as to Dr. Muspratt and his doings—embracing even what the Dr. never did, or had the opportunity to do—and his equally surprising ignorance of all else, "knowing nothing further" of Prof. Hamilton than that he studied a short time in Dr. Muspratt's laboratory, deserve remark. But the odd curiosity that prompted the question which your correspondent's remarks were intended to answer, and his closing words, are not deserving notice, except, perhaps, to let the petty spirit which dictated such an addition to a long series of equally childish annoyances know that his admirable ingenuity, on which he relies to enable him to "stab in the dark," is so clumsily used as always to declare who deals the blow, as much as if his name stood at the foot of his anonymous communications.—Astrup Carus, Sec.

Iron Manufacture in Ireland.—I am desirous of knowing whether pig-iron is now being made at all in Ireland, the minerals used, and the quality of the iron produced; I should, therefore, feel obliged if some of your correspondents would furnish the information, or refer me to some reliable work upon the iron-making resources of that country.—S. D.: *Chester, Nov.* 21.

Similarity of Production from Different Causes.—In your Journal of last week, under this heading, your able correspondent, Mr. Evan Hopkins, C.E., states—"That he never saw a single instance where the so-called lava (the basalt or toadstone of the north) had converted the coal into true coke." Perhaps, Sir, you will allow me to inform that gentleman that, at my late father's colliery at Birchills, near Walsall, in Staffordshire, such an instance occurs (if my memory serves me correctly), where a stream of basaltic lava appears to have passed over the coal for a breadth of 200 feet or 200 yards (I forget which), converting the whole of the coal underneath it into a perfect coke. After traversing a line of country from Rowley Regis, a distance, I should say, of at least ten miles (where evidently exists the crater of an extinct volcano), having itself at that point degenerated into a species of greenstone, of which I possess a beautifully striated and partially polished specimen—a report of which curious fact was published, at my late father's request, in a small pamphlet by the late Mr. Arthur Aiken, then secretary to the Society of Arts, about 40 years ago; the particulars of which, I think, was also inserted by that gentleman about the same time in the *Transactions* of the Geological Society.—W. H. James, C.E.

The Cost-book System, and Limited Liability.—In reply to a correspondent in last week's Journal, it is stated that a clause authorising the relinquishment of shares would be unjust, and thus inducing the opinion that the Cost-book System cannot exist except within the jurisdiction of the Stannaries. Now, than this nothing can be further from the fact, since it is quite competent for any company to frame their rules in exact accordance with the Cost-book System. There could be provision made for the call of funds as required, the forfeiture and relinquishment of shares, and for every other act that could be done under the Stannaries Laws. It is true that the shares must have a nominal fixed amount, but by fixing this at twice the estimated sum required the difficulty would be at once overcome. The injustice spoken of could only occur when the company was registered with limited liability, in which case, of course, no one would advocate relinquishment, as every share relinquished would diminish the security to the creditors. It has always appeared very doubtful to me whether the Cost-book System was not, in fact, unlimited liability in the worst sense, when pretended to be applied out of the Stannaries; and I must have some more convincing proof of the way in which it is limited before I can be made to regard a Welsh cost-book company with the same amount of confidence as naturally belongs to a company registered under the Joint-Stock Companies Acts, 1856-7, with limited liability; for in the one case the law is laid down in the clearest possible manner, whilst in the other it is difficult to ascertain by what law you are governed, or to what court you are to apply for redress of any grievance, unless it be the Court of Chancery, by no means a desirable place to become connected with. This relinquishment question is certainly one of great importance, as if it could be applied in the case of limited companies they would indeed be, as they have been already described, "no liability" companies with a vengeance. Some information from your valuable correspondent, Mr. T. Tapping, would be of great value, and which, indeed, I think he is almost called upon to give, as I find no mention of it in his "Exposition," although in other respects that work appears a near approach to perfection.—Speculator: *Nov.* 25.

Iron in Wiltshire.—At the commencement of the year there was a great parade of the discovery of this valuable metal at Seend, near Melksham. It was easy of access, labour could be obtained at a cheap rate, and in the course of a few months the fortunate proprietors were to realise a large return for their investment. May I enquire, through the medium of your columns, if the works have made any progress, or if they are suspended?—Carbon: *Nov.* 25.

Soapstone.—I observe that Prof. Way has patented the application of a "nameless rock or clay," found in Surrey, and known to contain a large quantity of silica, soluble in a boiling alkaline solution without pressure in the production of an alkaline silicate, and the use thereof in the manufacture of soap. I recollect some time since you published a correspondence with reference to soapstone, and should be glad to learn, through your columns, whether the nameless rock is identical with soapstone, or, if not, what it is composed of? I should think, if Prof. Way carries out his invention, we shall have cheap soap; but I cannot allow that the best use which can be made of our minerals is to adulterate articles of general consumption.—C. J.: *Nov.* 23.

Quartz Rock.—"A Scripholder" may possibly ascertain the present position of the association, by either applying to Mr. Alderman Carter, the late chairman, or Mr. Frederick Dineley, the secretary *pro tem.* and the solicitor of the company, at his offices, Austinfriars.

Science and Assumption.—I cannot agree with Mr. Evan Hopkins in all his theories. I have not so much faith in Mr. Jelinger Symons as he has; but this meed of justice I will render to him—that, despite his crotchets, he is a man who has read and studied a great deal; and, further, much that he has advanced he has practically demonstrated, so that there is no mistake as to his acquirements. I am here rendering no fulsome tribute, for anyone acquainted with mining knows that my qualified statement defies contradiction. I am glad to see that he is doing so much good to mining enterprise as he has lately done by his sensible remarks, which will tend to dispel the halo of mysterious ignorance, and the false assumption of knowledge which has characterised too many of the geological and metallurgical charlatans of the present day, who out-Herod their predecessors, the old alchemists.—Germanicus.

Mexican and South American Company.—I had thought that the Statute of Limitations barred all claims: how is it, then, that the directors of this company are endeavouring to force persons to become contributories who have held no shares for above ten years? —T. F.: *Cornhill, Nov.* 18.

Foreign Smelting.—I have read with great attention the sensible remarks in your Journal of "Practical," under this head, and must agree with him, that under such management no works could possibly succeed. The Copiapo Smelting Company appear to be adopting a totally different course. Mr. S. H. Thomas, their superintendent, has an intimate acquaintance with his business, having been all his life connected with mining and smelting. Since 1835 this gentleman has been in the service of the Alten Mining Association, which company has successfully carried on smelting since 1838. He has, therefore, great experience, and should he fail it will not be from want of knowledge, but solely from untoward circumstances, should such occur. How is it the Mexican and South American Company paid dividends for so long a period? Surely this should be enquired into: there must have been lax supervision somewhere. I am unwilling to throw the onus on any particular individual, but it does appear to me to be strange that the crash was not foreseen previously. I am told that within the last eighteen months the sum of 15,000*l.* was offered for the works as they stood. This bid, however, was declined. I would enquire, what is the utility of having directors with high-sounding names and commercial repute, if they do not attend to their business? A secretary may be a good financier, and a man of great talent otherwise, but unless he understands the details of the situation he undertakes he may unwittingly fall into errors, at the cost of the unfortunate shareholders, whose interests he is bound to serve.—Brass.

Australian Cordillera Company.—Your Brighton correspondent, "R. N.," enquires when it is likely that the moneys in hand will be returned to the shareholders? I, fortunately, was one of those lucky individuals who sold my shares when they were at a slight premium. Mr. Warwick Hunt, of Plymouth, was the secretary, and Mr. W. S. Trotter, the present secretary of the Chancelloreville Freehold, was one of the promoters. Probably he would be able to afford all the requisite information. His offices are in Great Winchester-street.—Australian.

Lady Bertha Mine.—I have received several letters from clients, asking the reason the report of the mine did not appear in the Journal last week. I have made enquiries, and find that the postmaster at Tavistock omitted to take the letters out of the bag: hence the delay.—Wm. Lelean.

The Mining Interest, and the Smelters' Monopoly.—Your Journal of last week contained a very sensible suggestion to remedy the monstrous monopoly of the smelters. Let the leading men in the principal mines immediately meet, and organise the preliminaries for a Joint-Stock Smelting Company. They (the miners) are now completely under the thumb of the great smelters, and thereby are most unjustly deprived of the fair market value of their ores and minerals. Once start such a company, and the rod which the smelters now hold *in terrorem* over the heads of the producers of the raw material will be powerless. The shareholders of every paying mine in the kingdom would take shares in a well organised and carefully managed company, and the monopolists would then find, to their cost, that honesty is the best policy.—D. E.: *Nov.* 26.

Quartz Reduction Company.—A statement appeared some weeks since that this association, which was formed on the ruins of the Agua Fria Company, was about to hold a meeting in November. Several shareholders are looking forward with great anxiety to this, but as yet no notice convening the meeting has appeared.—An Old Agua Fria: *Hereford, Nov.* 25.

Mining Secretaries, and Shares.—A case lately came under my notice which may be interesting to your readers. During the late depression a holder of some mining shares wished to dispose of them; he found he could not obtain a price for them on the market. He applied to the secretary of the company to take them off his hands. This he refused to do, and hence it was inferred they were of no value. The stock had suffered, as all other descriptions had, and it would be a novel theory in railways, banks, mines, &c., that the secretary should always be obliged to take stock at par when the market was dull. If this rule were adopted, there would be an end to all speculation, as holders of shares would be enabled at any time they chose to get rid of stock by forcing the secretary to take it off their hands. You are aware that many secretaries of mines are, according to the rules of the company, prohibited from dealing in their own stock. Mr. Redpath was engaged at the Great Northern Railway, one of the conditions being that he should not dabble in stock at all: how he evaded his contract we all know. As a general principle, I am of opinion that no purser or secretary of a mine should be allowed to traffic in any shares of the undertaking with which he is connected. I am aware that this is a question surrounded with many difficulties; but if once a fixed rule were adopted, and stringently carried out, I believe it would be conducive of much good.—Speculator.

Wheal Edward.—"An Old Subscriber."—Messrs. Henderson and Pope, the arbitrators appointed to determine the amount for encroachment between Wheal Arthur and Wheal Edward, not agreeing, it was resolved to call in Mr. Josiah Thomas, a surveyor, as umpire, who, under date Nov. 21, states that he had measured the ground taken away, and hoped to be able to send the award by Friday next.

Bedford United Mines.—A constant reader of our Journal desires to be informed what motives can influence a certain section of shareholders residing about Exeter inattempting to remove the management from London to Exeter. The undertaking has been, and still is, highly prosperous under the present management, and it would be very unwise to transfer it to other parties elsewhere, who may not prove so clever as they believe themselves to be, nor so disinterested as they would lead us to suppose. It is impolitic to disorganise the establishment; and shareholders may find out, when too late, they have been playing a game for other parties, and have ruined their own property.

Woodside Colliery.—"F. R. S." (Chester.)—The representatives of the press being refused admission to the meeting, we are unable to report the proceedings; but if our correspondent will send his printed circular, it shall be inserted.

Miners' Lamps.—In perusing your last Journal, I observe an article on Miners' Lamps, which induces me, as agent for Mr. Dubrulle, to request your insertion of the annexed remarks:—On Aug. 15, you inserted an article on the same subject, in which the good qualities of Mr. Dubrulle's lamp were so far advocated, and his prior claim to the improvements so spoken of, that I have attached it to the prospectus sent out. You there say that "Mr. Mozard's patent is dated Sept. 3, 1856, and from the description and drawings filed his lamp appears to be an ordinary Museeler, with all the important improvements which prevent the lamp being opened without extinguishing the flame. But in this part of the invention he was anticipated by upwards of a year, as Mr. Andre Dubrulle, of Lille, whose patent is dated Aug. 20, 1855, states that his improvement consists in the particular dispositions whereby the lamps cannot be opened without being previously extinguished." You remark in your last week's Journal, that "in Mr. Dubrulle's lamp the objections to Mozard's lamp (as stated by you) do not exist; but as the extinguishing of the lamp depends on the action of a spring, which was released upon unscrewing the top, many had their doubts as to the durability of the lamps." Now, you will find that these objections are not at all applicable to the lamp at present made by Mr. Dubrulle, and patented by him for Great Britain and Ireland, but that they are altogether upon a different principle, dispensing entirely with the spring extinguisher—the wick of the lamp being connected with a pin, which retains completely fast the cover of the lamp in its place, and to withdraw this pin you are compelled to screw down the wick of the lamp so low as to completely extinguish the light, and by so doing set the cover of the lamp free. Mr. Dubrulle's lamp has already been proved to answer every purpose requisite, having all the advantages of the Davy lamp, being much lighter, and the cost 20 per cent. less than you quote as the price of Mr. Munier's lamps.—T. W. Lord: *Boar-lane, Leeds, Nov.* 25.

Chancellorsville Freehold Gold Mining Company.—"An Old Subscriber" (City).—We are unable to give the required information. Although the most diligent enquiry has been made, we can neither ascertain the quantity of ore operated upon, nor whether it was obtained from Virginia or Wales. Capt. Hoskins is still at the mines in Virginia, and if the representations as to the manner he is treated are correct, it is not very creditable to the executive. Our correspondent is in error in stating that they have no premises or machinery, as the former are very extensive, and the latter of a superior description.

Gold in England and Wales.—A correspondent states that he can confirm, by trite experience, all that Mr. G. Miller wrote about this subject in the *Mining Journal* of Nov. 7. He states he was first tempted to dabble in gold mining speculations by the report of a learned professor, who was director of two gold mining companies. This gentleman stated that if the precious metal existed it could be extracted from the quartz at the rate of 13*s.* 6*d.* per ton; subsequently, there appeared assays of Low, Perkes, Harris, Forrest, Sloper, Calvert, Squires, Godefroy, and others, and he still believed that at least some of these results would turn up a prize; hitherto, he has only expended his capital and reaped disappointment. As far as regards Mr. Godefroy, he has promised that a practical solution of his process will be attained in the present week, while Mr. Harris informed us that the Chancellorsville Works would be in operation on Nov. 1. We can only presume that some of those unaccountable delays which appear necessarily, both here as well as in California and Australia, to clog the reduction of gold ores, must have here occurred thus to retard operations. The writer, in noticing Mr. Evan Hopkins's remarks, that practical men ought to be employed, urges as an objection that these gentlemen are not always infallible, that they are liable to errors of judgment, and at the same time of reasoning, that our correspondent would prefer to purchase his knowledge at the cost of experience, rather than employ a practical person, whose acquaintance with the subject would enable him to guard his client against fallacious and illusive statements that from time to time are put forward by individuals of a sanguine disposition, who in many instances do not delude others in so great a degree as they deceive themselves. Many of the theories arrived at have been the result of table experiments; these can never be regarded as a test for operations of such magnitude as to be of any commercial value.

WHEAL EDWARD—"Subscriber" (Barnstaple).—The suggestion of our correspondent has been anticipated, as we are informed that the committee have determined not to sample any ores under a produce of 6 per cent., and to curtail all operations at the mine as much as possible, with a due regard to the efficient working of the principal points now being carried on.

## THE PROGRESS OF MINING IN 1857.

BY J. Y. WATSON, ESQ., F.G.S.

Complaints having been occasionally made, that certain mines had not been noticed in the Annual Mining Review, it is particularly requested that agents and purservs will forward a brief account of their mines (especially of those in new districts), either to Mr. J. Y. WATSON, St. Michael's-alley, Cornhill, or to the Editor of the MINING JOURNAL, 26, Fleet-street, as early in December as possible, that they may be embodied in the forthcoming Fourteenth Annual Review.


# THE MINING JOURNAL

## Railway and Commercial Gazette.

LONDON, NOVEMBER 28, 1857.


The returns of the exports from this country, the produce and manufacture of Great Britain, have been issued by the Board of Trade for the month, and the ten months, ending Oct. 31. It is satisfactory to find that they again show a great increase over the corresponding periods of last year; and although the estimated average excess for the entire twelve months of 1857 will not be equal to the augmentation of 1856 over 1855, yet the advance made in 1857 is most remarkable, more especially when it is remembered that no less than 20,000,000*l.* was the declared value of exports in 1856 over those shipped in 1855. The difference between the first ten months of this year and those of last is 11,147,825*l.*, which is equivalent to an increase for the twelve months of 13,377,389*l.* The present returns show a value for the ten months, ending October 31, of 106,721,381*l.*; and as those for the same date of 1856 were 95,573,556*l.*, it necessarily follows the amount stated is in favour of 1857. At the commencement of the year there was every reason to believe, from the declared value of the shipments, that the increase for the whole twelve months would have more than equalled those of 1856 over 1855; but instead of 20,000,000*l.* excess, the exports of the last few months have brought the estimated advance to the figure already given, 13,377,389*l.*

The total value of exports for the month of October is set down at 10,985,789*l.*, against 10,666,951*l.* in Oct. 1856, so that the excess of the thirty-one days over last year is only 318,838*l.*; and as the returns for September of this year showed a total of 11,068,874*l.*, the shipments during October are less than those of the preceding month by 83,085*l.*, which arises, no doubt, from the almost total suspension of consignments, as well as the execution of orders, for the American and East Indian trades, more especially the former.

With reference to articles closely identified with the mining industry of the country, the returns in question show an increase in every particular. The total for the ten months is declared at 26,480,384*l.*, and as that for the same period of 1856 was 22,979,454*l.*, there is an augmentation of 3,500,930*l.*, which is equivalent to an excess for the entire year of 4,201,116*l.*; and presuming that the total exports will amount to the sum of 13,377,389*l.*, it follows that this branch will represent more than one-third of the entire increase of the commercial industry of Great Britain, as respects the exports. The sum of 4,201,116*l.* is made up of items unquestionably the legitimate result of mining in our own country, and is not in any way swelled by figures which are identified with this branch of our industry, although not so readily recognised. The heads included in our estimate and the present figures are coals and culm, hardwares and cutlery, machinery of all sorts, and metals—that is, iron of all kinds, steel, copper, brass, lead, and tin. The increase under the first for the ten months is 305,360*l.* over the same period of last year, 386,415*l.* excess in the second, 1,074,863*l.* augmentation in the third (that is, machinery), and 1,734,292*l.* increase in metals, which constitutes the fourth and last head. The details will be found in another column.

The vessels engaged in the transmission of the general exports during the ten months were 38,678 in number, with an aggregate tonnage of 8,911,065, which is an increase over the same period of last year, and of these figures 5018 vessels, of a collective tonnage of 1,996,263, were forwarded to British possessions. In this latter particular there is, however, a decrease, although the grand total shows the increase mentioned. We find that 5018 vessels have been sent to our own territories in this year, whereas 6232 were dispatched during the same months of 1856, which is a falling off in number of 1214. The tonnage of the vessels of this year are given, collectively, at 1,996,263, and as the tonnage of the ten months of 1856 was 2,093,316, the tonnage likewise shows a decrease of 97,053. The decrease is observable entirely in shipments to "other parts," as North America, East Indies, and Australia; the only other heads under "British possessions" give each an increase. On the other hand, the number of vessels and tonnage to North America and Australia show a decrease for the month of October, while the East Indies and "other parts" give an excess over October, 1856. To North America we have sent forwarded during October only 39 vessels of 13,252 tonnage, against 51 vessels and 20,873 tons in 1856; to Australia, 52 vessels of 45,495 tons, against 53 vessels and 46,937 tons. To the East Indies, 81 vessels of 54,834 tons, against 71 vessels and 52,266 tons; and to "other parts," 321 vessels of 78,981 tons, against 250 vessels and 52,012 tons.

The apportionment of the declared value of the shipments during the last nine months is also furnished in the present return. Of the total of 95,735,592*l.*, it appears that 28,003,682*l.* was sent to British possessions, and 67,731,910*l.* to foreign countries. Of the former, the East Indies received to the value of 8,720,957*l.*; Australia, 8,500,704*l.*; North America, 4,107,920*l.*; Cape of Good Hope, 1,246,666*l.*; the West Indies, 1,140,763*l.*; and so on downwards to the Island of Ascension, which took 10,744*l.*

Of the second head—foreign countries—the United States necessarily stands at the head of the list, as respects amount, the declared value of her receipts from us for the three quarters being 16,613,007*l.* Hans Towns are second, to the amount of 7,750,607*l.*; France comes third, with 4,967,260*l.*; Holland, fourth, to the value of 4,968,816*l.*: Brazil, fifth, with 4,247,750*l.*; Turkey, sixth, to the amount of 2,548,458*l.*, and close following is Russia, to the extent of 2,520,258*l.*, or about 28,000*l.* less than Turkey, and so on decreasing through 47 other different places, the smallest in the category being the Island of Bourbon, which traded with us, as respects our exports to her, to the *extent* of 175*l.* during the first three quarters of the year.

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Of all descriptions of property, that which is termed intellectual is the very worst. True, it is born of the workings of the mind, and springs from the cultivation of the highest order of faculties wherewith a beneficent Providence has endowed mankind; nevertheless, it is the worst investment in which a man can embark his time and capital: Russian railways, British Banks, and Poyais land schemes are stable and profitable in comparison. But intellectual property is ruin to the pocket and to the mind; it breaks the heart of the stoutest man, and entails misery on generation after generation;—witness the cases of COBT and KAY, and hundreds of others that could be named. And of all descriptions of intellectual property, property in inventions, by popular error assumed to be protected by patents, is the most delusive and the most unsatisfactory. It is a misnomer to call it property, for no man can feel certain that he is seized of it. It is a border land, where the mess troopers of trade and industry harry and pillage the honest and hard-working tillers of the soil; where strength (of purse) always wins the day, where law is a mockery, and where might is always right.

As the majority of men are not burthened with the fatal gift of inventive genius, they look upon those who are with no sympathy. If they condescend to regard them at all, it is as game to be hunted down. Consequently, the idea that inventors should claim a property in their works is considered as preposterous in the extreme, as a proposition at variance with the laws of political economy, and calculated to embarrass the operations of trade. Men who never gave birth to an idea, insist that ideas emanating from an individual cannot become his property, because they are not tangible, cannot be surveyed, or sold on 'Change. Where perceptions are so gross and vulgar, it would be idle to prove that real property may, and ought to, exist in original emanations from the mind in the productions of inventive genius. There is not wanting in England a class of politicians and social economists who exclaim against protection to property in inventions, because they say protection gives a monopoly. The laws which protect the landowner in the enjoyment of his rents, and the trader in his earnings, give each of them a monopoly—a greater and more enduring monopoly than the inventor enjoys in working his patent.

If English inventors are threatened with the unwise hostility of an influential section of Legislature, it may afford them some consolation to learn that elsewhere their claims to protection for their property are more kindly considered and more justly treated. The EMPEROR OF THE FRENCH, whatever opinion may be held with respect to his political conduct, has throughout his reign shown the greatest desire to foster and encourage inventive genius, without regard to nationality; and as a proof of the solicitude he feels for the rights of this species of intellectual property—of the justice and wisdom of affording it efficient protection, and diminishing the fines that have hitherto been imposed upon it—we have only to refer to a *projet de loi*, which we are informed will be among the first submitted to the *Corps Legislatif* in the ensuing session. It has already passed the ordeal of a special commission, besides having been examined and reported on by the Consulting Committee of Arts and Manufactures. The principal provisions are the gratuitous communication of specifications six months after they are lodged, or rather after the patents are granted; extension of the duration of patents to twenty years; reduction of yearly payments from 4*l.* annually to 16s. 8d. the first year, to be proportionately increased year by year.

Permission to patentees to import models of their inventions from abroad, and of goods made according to their inventions, for public exhibitions or for experiments, having previously obtained the consent of Government; consolidation and simplification of the patent laws, and procedure under them; right of inventors to have an official examination of their patents, with a view to certify or guarantee their validity, after two years' working. Such are the principal features of the proposed law, which, when carried out, cannot fail to exercise a most beneficial effect upon the material prosperity of France, to develope her resources, extend her manufactures, and attract the inventive genius of all nations.

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We direct the attention of our readers to a lecture delivered by Mr. WARINGTON SMYTH, at the Government School of Mines, on Monday, which will be found in another column. In this the lecturer very concisely points out a number of subjects to be taken into consideration previous to any new mine being undertaken. To these specialities we will not here allude, as they will be found elsewhere in detail; they are such as prudence and sound economy would dictate, and if adopted and carried out in their integrity would render mining not a speculative adventure, but what it should be, a sound and legitimate investment. The great evil that hitherto has retarded mineral enterprise in this country has been the dubious schemes which, from several quarters, from time to time have been introduced to the public by nameless and questionable adventurers. A few of these which have thus been ushered into notice have by chance proved successful; the greater majority, however, have been otherwise; and a class (of comparatively recent date) composed of semi-practical and pseudo-scientific individuals, have inflicted great discouragement and brought an ill name on mining. Practice must always have its due influence; aided by science, it will overcome all obstacles; and as education becomes more diffused a newer and more vigorous race will spring up, worthy of mining in its best days; while one great good will be effected—it must effectually stop the machinations of these reckless individuals, who, without knowledge and character, by a combination of ignorance, conceit, and self-sufficiency, occasionally inflict great evils on mining; securing a trifling benefit to themselves, while they do an almost irreparable harm to the calling they profess, but do not understand.

## NEW IRON DISTRICT IN SOUTH WALES.

[FROM OUR CORRESPONDENT.]

I have just returned from a ramble through South Wales, where things in the iron trade look black, and I fear for some time masters and men will have to bear and forbear. However, there is a place called Llantrassant, about 11 miles from Cardiff, on the South Wales line, which to the geologist and ironmaster must be worthy of great attention. At this station the rail makes its first entrance upon the South Wales coal basin, and I believe is the first coal field it actually touches or enters upon between that point and London. My attention at this station (Llantrassant) was directed to hematite iron ore of fine quality, which was lying there in great quantities, waiting for trucks. After some conversation with the station master, I was informed that Messrs. N. Vaughan, David Jones, and J. A. Cooke had made great discoveries, and one or two, if not all the parties, had opened the mines for the sale of ore. I resolved to visit these places, which I did in company with the last-named gentleman, who gave me an amount of very interesting information respecting the district. After taking me over the mines, I asked him how it was the iron ore was not smelted in that neighbourhood, when he informed me that the old Romans had smelted thousands of tons, at the same time directing my attention to a place where a vast accumulation of old cinders lay, which was, no doubt, the first indication to the hidden treasure. I was further informed that about 80 ft. thickness of coal lay over the district, of a fine, highly bituminous character, of first-rate quality for iron making, and limestone for flux in unlimited abundance, as near as can be together. In the coal measures, I found fine clay ironstones, which would, no doubt, be of use to ironmakers. I was assured by my friend (for such I must now call him) that iron can be made there, if wanted, to the extent of 50,000 tons per week for 100 years, without fear of exhausting the mines, and at a price not exceeding 40s. per ton, of the finest quality, equal to Forest of Dean, Blaenavon, or any other choice brand. The iron mine contains equal to 60 per cent., is up to the surface, and is worked to open daylight, no man being under cover. Pits are sunk to the coal, and this district is, in my opinion, destined at no distant period to become the leading place in the iron trade. I hope these few lines may have the effect of directing the attention of your readers to this very interesting district.

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AUSTRALIA.—In our last Journal we mentioned there was every probability of the arrival of the *Simla*, with the Australian October mail, being known in London, by telegraph, on Thursday, in consequence of the well-known sailing qualities of this vessel, and her invariable rapid passages to and fro. On Thursday, about mid-day, it *was* known that the *Simla* had reached Suez in due course, or rather four days within her contract time. The dates by her are from Sydney to Oct. 11; Melbourne, Oct. 15; and Adelaide, *via* Melbourne, to Oct. 10. She brings gold to the value of 298,388*l.* The missing mail bags, per *Emeu*, were taken from the *Arab* passage-boat, by the Madras steamer, at the entrance of the Gulf of Suez, and may be expected in London on Monday next, *via* Marseilles. The *European*, with the London mail of August, did not reach Melbourne until October 13, which was seven days behind her time, consequently the replies by the *Simla* will merely be from that city and immediate locality, as there were only 48 hours between the receipt of the home letters at Melbourne and the dispatch of the *Simla* on October 15, while the colonies of New South Wales, South Australia, Tasmania, and the principal country towns of Victoria, were not in possession of their despatches prior to the *Simla* leaving. The receipt of the present intelligence from Australia by the *Simla* is the shortest on record. The period between her departure from Port Phillip Heads and the delivery of the telegram in London was only 40 days. Her journey out was likewise effected in some days less than the contract time, showing clearly that the mails can be duly carried within the prescribed period, if vessels of proper speed and power be employed.

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RAILWAYS IN VICTORIA.—It was our intention to have remarked, at some length, on the position of the railway question in Victoria; but as we shall, no doubt, be in possession of important, and, perhaps, exclusive information from that colony on the subject by the receipt of our letters now telegraphed *en route*, we shall defer details for our next publication. In the meantime it is important to draw attention to a few lines on this point in the present *Australian Stocks Circular*, of Mr. W. Westgarth, who is an admitted authority on matters connected with Victoria, and has given especial consideration to the question mentioned. In alluding to the recommendation of the railway committee for the construction of two trunk lines, as described in our remarks of last week, "there was, however," writes Mr. Westgarth, "a strongly expressed opinion that two different trunk lines should not at present be undertaken, and that the later mining and other developments pointed now to one line of rail, on which alone the limited means of the colony should be concentrated—namely, that from Melbourne to Ballarat. The estimated cost of these railways is 6,000,000*l.*, a serious intimation in the present state of monetary affairs in London, where the whole amount, with very fractional exceptions, will undoubtedly be applied for. This demand, however, was to extend over an interval of three or four years; and it is now further probable, that the news of the present depression in home monetary affairs, together with still apparently divided counsels in the colony as to the direction of trunk lines, will yet retard for a time the vigorous pursuit of these undertakings, and consequently any heavy call for money."

## THE MINING AND INDUSTRIAL INTERESTS OF CORNWALL.

[FROM OUR CORRESPONDENT IN WEST CORNWALL.]

Nov. 26.—The standard last week fully maintained the price of the previous week, which, in fact, may be considered an advance, inasmuch as the ores of the eastern mines ordinarily sell at a lower standard than those of the western. But it must not be supposed that the firmness of the standard last week was a perfectly gratuitous act on the part of the smelters. It is understood that the representative of those important mines—the Devon Consols—had the power intrusted to him of withdrawing the whole of their ores from the ticketing—2542 tons, if there was any further depression of the standard; and this being made known to the smelters, after some conference, an understanding was come to, that there should be no reduction that day. It is in consequence, no doubt, of the Devon Consols taking this spirited stand against the excessive reductions of the smelters, that we had to report last week a firm, and even an advancing, standard. Nor is Devon Consols the only section of the mining interest which has begun to move in self-defence. In the announcement of copper ores for sale at Redruth on Dec. 3, it will be observed that South Frances is not in the list of mines to sell on that day, although its sale has hitherto been at the first ticketing in each month. It appears the managing committee of the mine considered they were not justified in selling at the low standard to which the smelters have now reduced the price of ores. They, therefore, sent notice to the samplers that their services were not wanted; and, consequently, the sale on Dec. 3 will be about 500 tons less than it would if South Frances had come into the ticketing as usual. This is setting a fine example to other dividend mines, the adventurers of which should content themselves with merely paying costs at the present time, and hold over all the surplus ores until they get the price they ought to have for them. It is very foolish to sacrifice their property by selling all the ores they can raise at the present standard. The smelters will stock what they cannot immediately sell, and in a few months make immense profits on their cheap purchases. The price given last week for as much ore as would make a ton of fine copper was 79*l.* 15s., whereas the selling price of cake copper is 121*l.* 10s. per ton, making a difference, to the advantage of the smelters, of no less than 41*l.* 15s. per ton, from which they have to deduct the expenses of carriage to Swansea and smelting, and all the rest remains as profit. On the other hand, it is said, and may be imagined from the complications of monetary and commercial affairs, that some of the smelters are not very anxious to buy at the present time: one of them, indeed, honestly said last week that it would be better for mine companies to stock their ores, as he had not the slightest doubt that the standard would advance again, and then they would have better prices for their produce. In either case, however, whether the smelters have excessively reduced the standard for the purpose of buying in a stock of ores cheap, to sell in three months' time at enormous profit; or whether the standard has fallen in consequence of some of the smelters, in these perilous monetary times, being disinclined to purchase—the result is the same to the miners; and it must be clearly the interest of mining companies not to send more ores to market than they are obliged to in order to sustain the working of their mines; as by selling more than that quantity they submit to a serious sacrifice of their property.

One of the consequences of the great reduction in the prices of copper and tin, is a fall in the rate of wages. This has been generally carried out in the St. Just district, and in other mining districts of the county the same will follow; and, in fact, must do so, if the mines are to continue working with the present prices of orey produce. The prices of materials must also come down, and will do so to a considerable extent if the present state of things continue for any length of time, because some mines will then cease working, and others will greatly reduce their operations, so that there will be less demand for materials. It is hoped and believed, however, by many persons of experience and information, that the present disastrous prices will not exist long enough to cause many mines to be abandoned, or greatly to reduce their workings; but to a reduction of wages the miners will have to submit in very many mines. This is a result to be deplored, but there is no avoiding it, unless the prices of tin and copper immediately advance. It is thought that there will be an advance in the price of tin very shortly. There is a great deal of complaint about the closeness of the monopoly amongst the tin smelters, who are only a few firms, and prices are ruled by two or three of them. Perhaps the present "pinch" of the times may draw the managers of tin mines together, and show the smelters that they are not to be trifled with for the sake of avarice.

There is not much doing in mining shares, and it is not likely there will be, until the standard and the price of tin show a strongly advancing tendency. Wheal Buller and West Seton are looking well, but shares could only be sold now at declining prices. West Setons are quoted at 320*l.* In a few of the progressive mines which are looking well shares are firm—such is the case with East Basset especially. West Basset Mine is reported to be looking better. In the St. Ives, St. Just, and St. Hilary districts, shares may be expected to decline, consequent on the fall in tin. In different parts of the county the tin miners are stocking a portion of their produce. One or two mines have been spoken of as likely to cease all underground workings, and only to keep the engines at work until better prices enable the agents to take away the produce to advantage. Wheal Margaret shares have declined. North Levant and Pendeen continue to look favourable. Boscean is stated to be looking well. Wheal Margery shares are low, in prospect of a call. The lead mines have not been so much affected by prices as the copper and tin; pig-lead has only dropped about 10s. a ton in the last two months.

The farmers of the county do not seem to be affected by the commercial panic. They have been busy sowing their wheat, with no other care upon their heads for the time. They very much disapprove, however, of the price of corn going down as it has done; though that will help the miners, whose wages are about to be reduced. On threshing the wheat produced by last harvest, the farmers find that it does not yield so much as they expected, but the quality is very good. The turnip and green crops generally are looking well. The pastures have produced a good supply of herbage. At the different fairs cattle and sheep have sold at high prices, but there has been lately a tendency to decline.

## REPORT FROM YORKSHIRE, DERBYSHIRE, AND LANCASHIRE.

[FROM OUR CORRESPONDENT IN CHESTERFIELD.]

Nov. 26.—The financial crisis is exercising a very prejudicial influence on the Iron Trade, and great complaints are prevalent of the scarcity of orders, especially from the Continent. The arrival of the *Persia* has brought us more favourable intelligence from the United States, where the monetary panic is gradually subsiding. The houses in Yorkshire and Derbyshire are generally making full time, but if the present position of the money market should continue it is doubted whether they will be able to afford their hands full employment. The pig-iron trade is much depressed, and prices are again lower.

The Coal Trade is brisk, considering the position of trade in the manufacturing districts, and prices are tolerably well maintained. The inquest on the bodies of the persons killed by the dreadful accident that occurred, on Sunday last, at the Hollingwood Pit, Staveley, the property of Mr. Richard Barrow, was held on Thursday (to-day). During Saturday night a fire broke out in the lamp cabin of the pit, which was not discovered until between five and six o'clock on Sunday morning, when information was given to Mr. Daniel Cooper, the under-viewer at the pit, and he sent for several men to assist him in quenching the fire. They went down the pit, and perceived a quantity of smoke issuing from the bottom of the engine; the lamp door was opened, when the place was discovered in flames. He desired a man, named Charles Vardy, to open an air-door, but from the evidence which was adduced it appeared to be the opinion of the scientific witnesses that there must have been a mistake in the door which had been ordered to be opened. The inquest was held at the chief offices of Mr. Barrow, at the works, before Mr. Busby, the coroner; Mr. Hedley, Government Inspector; Mr. G. Elliott, under-viewer at the collieries of the Marchioness of Londonderry; Mr. Woodhouse and Mr. Jeffcock, consulting engineers to the colliery; Mr. Philip Cooper, of Durham, brother to two of the deceased, were present. Mr. Barrow had written to Mr. Nicholas Wood to attend, but that gentleman found it impossible to do so. A plan of the workings was produced for the information of the jury. Two boys, named Fowkes and Treman, gave evidence of the discovery of the fire, and Robert Scott also narrated what Mr. Cooper and his party were doing prior to their death; but the most important evidence was that of Charles

Vardy, a collier. He stated that Mr. Cooper gave him orders to open the separation doors between the upcast and downcast shafts—that he refused until urged to obey his instructions by Scott, who told Vardy to execute his orders. The effect was to drive the smoke and foul air further down the incline. It was believed, however, that the unfortunate men were suffocated before the doors had been closed. Mr. Woodhouse and Mr. Jeffcock detailed what steps they had taken to quench the fire, and the former gentleman expressed his conviction that Vardy had mistaken the orders given by Mr. Philip Cooper, whom he said was a thoroughly competent and practical man, and the most diligent and active agent they had ever had at Staveley. Mr. G. Elliott was also examined, and he expressed his entire approbation of the management of the works, and the state of ventilation generally. Mr. Hedley, in his evidence, coincided with the views taken by Mr. Woodhouse and Mr. Elliott, and he further added that the Staveley Collieries were as well managed as any collieries in the Midland counties. The jury afterwards returned a verdict of "Accidental Death." A subscription has been opened to afford temporary relief to the widows and orphans of the sufferers; the Duke of Devonshire has given 150*l.*; Mr. Barrow, 250*l.*; Mr. Eaton, 50*l.*; and Messrs. Woodhouse and Jeffcock, 100*l.*

The Eyam Mining Company sold, on Thursday, 43 tons of ore, the produce of the last three weeks. The ore works are now in a very promising condition. The men, a few days ago, cut into a very rich work of ore.

We have nothing material to notice as to the position of the other lead mines. We have some favourable reports of the prospects of the Mill Town and Mill Dam Mines, respecting which we shall have some information to communicate in our next.

## THE IRON AND COAL TRADES OF STAFFORDSHIRE.

[FROM OUR CORRESPONDENT IN WOLVERHAMPTON.]

Nov. 27.—Somewhat of the gloom which overspread the district, and more particularly this town, last week has been dispelled by the prospect now afforded that the Wolverhampton and Staffordshire Bank will in the course of a fortnight, probably, be able to resume business. This result is due to the efforts made by all parties, to the vigorous action of the shareholders, the forbearance of the creditors, and the liberal offer made by the directors to advance a sum to enable operations to be recommenced. A private meeting of the shareholders, adjourned from Friday, on Saturday passed a resolution, declaring it to be the duty of the directors to advance 200,000*l.*, or such other sum as should be necessary to enable the bank to re-open. This was conveyed to the directors, and their answer was deferred. The same night, however, their report, the result of two days' examination of the affairs of the bank, aided by Mr. Hill, the former manager, and Mr. George Robinson, a highly respectable solicitor of the town, was issued. It showed, as did the previous statements, gleaned from hasty enquiries, that the liabilities were 769,000*l.*, of which 89,000*l.* were for deposits, 408,000*l.* for credit balances, 31,000*l.* for notes in circulation, the remainder being due to the London bankers of the company, the Bank of England, and for bills under discount, the latter item amounting to 141,000*l.*, of which, from the statement of assets, it was calculated that 103,000*l.* were bad, and would not realise more than 10*s.* in the pound. The statement of assets, according to the estimate put upon their value, showed a deficiency of 32,000*l.*, after the capital, guarantee fund, balance from last year, and profit in this, and the ordinary provision for bad and doubtful debts, had been all swallowed up. Bills of exchange to the amount of 246,000*l.*, for which the bank was liable, were put down as doubtful, and estimated to produce only 10*s* in the pound. The overdrawn accounts amounted to 422,000*l.*, from which a deduction of 72,000*l.* was made for losses. Under these circumstances, the directors proposed that the depositors, and those who had credit balances in the bank, should allow the sums standing to their credits to remain for a certain time at interest, this being essential to the bank opening. Instead of offering to advance 200,000*l.*, as demanded by the shareholders, the directors offered to raise 50,000*l.* on their own private securities, but they were induced to double this amount. Meetings of the shareholders and creditors were afterwards held, when a committee of the former body was appointed to act with, and to some extent to control, the directors, who are "to take no important step without their sanction." A call of 5*l.* per share is at once to be made, and the shareholders are requested to advance a further sum of 5*l.* per share, at interest, the creditors agreeing to receive the amounts due to them in four equal instalments, due Jan. 1 and Oct. 1, 1858, and April 1 and July 1, 1859, with interest at 5 per cent. per annum. A deed embodying the latter arrangement is being extensively signed by the depositors, and those who have balances to their credit in the bank. There can be no doubt that the carrying out of this arrangement will be of great advantage to the district. Had the overdrawn balances, for instance, been suddenly called in, many to whom these advances had been made must have been ruined; as, at the present juncture, it is almost equally impossible to sell the produce of mines or works, or to raise money on the mortgage of deeds, so completely has confidence been destroyed. In the case of insolvent firms, an attempt to realise the estates suddenly would involve an equal amount of loss; whilst legal proceedings on the part of the creditors of the bank to obtain their money, and on the part of the bank to recover their advances on bills, &c., would have involved an amount of loss almost incalculable. With respect to the causes which led to the stoppage of the bank, the directors say in their report—"It was not until a few days before the 17th of this month that your directors were aware of the extent to which the manager had discounted and made advances upon paper of a character that never ought to have been received at the bank. The result of this mistaken line of conduct placed the bank in a situation of so much embarrassment that your directors, after the most anxious consideration of the matter, deemed it necessary on the 17th to suspend the business of the bank." People have been labouring under the supposition that the duty of directors was to look into the affairs of a bank, and strictly to scrutinise especially the existence of the items of bills discounted and overdrawn balances; and it is a very weak defence for the neglect of this duty to cast the blame upon the manager. Since the bank declined advising bills no less than eight firms engaged in the iron trade have stopped payment, but of these there is scarcely one which was not regarded throughout the district as likely to succumb in case of a period of pressure ensuing. Had some of the houses, whose position is generally regarded as sound, been brought down by some unexpected calamity, excuses might have been found for the management of a bank confiding in their stability, but no such extenuation can be urged in the present instance. In fact, by the aid they have rendered to firms not possessed of capital sufficient to enable them profitably to carry on their inordinately extensive engagements, they have been the means of propping up a system of false credit, of greatly increasing the liabilities of these firms, and, consequently, the losses of their creditors, and of prostrating credit and trade in the district, by the mistrust which the exposure of so much unsoundness naturally engenders. The directors are generally condemned for allowing the bank to close; they had, according to their report, good bills in hand to the amount of 148,000*l.*, and had they acted with energy, and pledged their own means to raise money, as they have since done, the catastrophe, with its attendant evils, might probably have been averted. At the meeting of creditors, on Tuesday, the "accommodation bill" system was strongly condemned, as "the bane of South Staffordshire." The following firms have sent circulars to their creditors, announcing their inability to meet their liabilities:—Messrs. W. Riley and Son, proprietors of mines, of Bentley and Millfield's blast-furnaces, and of the Highfield and Regent Works, and also extensive dealers in pig-iron. Messrs. Riley were extensive losers by the failures in 1855. Their meeting of creditors is fixed for Tuesday next at the Swan Hotel, in this town; their liabilities are, no doubt, very heavy. It is hoped that a dividend of 10*s.* in 1*l.* will be realised. Mr. C. F. Perry, of the Old Birchill's furnaces, near Walsall, also a dealer in pig-iron. The meeting of his creditors took place, on Saturday last, at the Swan Hotel, Wolverhampton. A statement, prepared by an accountant, estimated the liabilities at 63,744*l.*, and the assets at 34,705*l.* A dividend of 10*s.* in 1*l.*, payable in three instalments in 12 months, was offered. A committee was appointed to look into the accounts. The losses on endorsements and on bills in hand are calculated at 23,462*l.*

The creditors of Messrs. Motteram and Derby, Toll End Works, Tipton, met on Tuesday, at Wolverhampton. Their liabilities were estimated at 44,450*l.*, and their assets at 20,050*l.* They were believed to be liable for 7700*l.* on bills endorsed by them. Their statement of assets contains an item of only 50*l.* cash, not a single bill being held by them. They failed in 1855, and their works are held in trust for their former creditors. It is not anticipated that any but a very slight dividend will be realised from the estate. Messrs. Rose, Higgins, and Rose, of the Bradley Works, and the Bradley New Works, near Bilston, have convened their creditors for Monday next, at Wolverhampton. And Messrs. Brayford and Lancaster, of the Birchills and Walsall Works, near the latter place, and Greet's Green Works, West Bromwich, for to-day, at Birmingham. Yesterday, the creditors of Messrs. Pool and Co., proprietors of blast furnaces at Wolverhampton, met. Their liabilities were estimated at 15,197*l.*, to meet which there were assets to the extent of only 1598*l.*, after deducting accounts to be paid in full, such as royalties, wages, &c. The prospects of the creditors in this case are certainly not very promising. Messrs. Fletcher and Rose, of the Albert Works, Moxley, have convened their creditors for Thursday next, at the Queen's Hotel, Birmingham. They failed in 1855, and their last instalment to their former creditors is not yet paid, being due at the end of the present month. The two other failures announced are Messrs. Solly, Brothers, of Lee Brook and Great Bridge Works, Wednesbury; and Messrs. T. Morris and Sons, Tipton. It is feared that the statement of accounts of most of these firms will show serious deficiencies.

Trade is almost at a standstill. With few exceptions, the works in the district are only partially in operation, and a very large number of blast furnaces have been blown out, whilst others are likely to be stopped, unless the aspect of affairs improves. Scarcely anything is doing in purchases of mine or pig-iron. Any sales, especially where cash is paid, are made at a reduction of 25 or 30 per cent. from prices obtained a month ago. On Saturday last the workmen at many of the collieries, blast furnaces, and manufactories received a fortnight's notice of a reduction of wages; where the amount was definitely mentioned it was about 20 per cent., but in many cases the notice was an open one. Many men are thrown out of employment, and much distress will, it is feared, be experienced during the winter, which is now setting in. The improved aspect of American affairs, and the greater degree of buoyancy in the money market in London, afford grounds of hope for the future, but a few months must elapse before anything like activity will again prevail in the trade of this district. Every effort will, no doubt, be made to alleviate distress, by parochial aid and by private charity, which, however, are poor substitutes for the steady current of industrial earnings.

## REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

[FROM OUR CORRESPONDENT IN SOUTH WALES.]

Nov. 26.—The Iron Trade throughout South Wales is still in a very depressed and unsatisfactory state. The reaction from good prospects has been so sudden, that manufacturers have not had time to prepare for the change, and the losses have already been very serious. In hardly a portion of this large district is the least briskness observable. Passing in review the localities of the principal works, we observe an uniform dullness, combined with fears concerning the approaching winter. We have been engaged personally during the past week in an examination of these places, and the result has been to confirm the opinion expressed now generally in private circles, that unless trade with America is speedily resumed, disastrous consequences must ensue. To this desirable event we cannot look forward at present. The panic in this country seems to be working off, but business in the States is still, and will for some time remain, interrupted. No immediate hopes can, therefore, be based upon that quarter, and we adhere to the opinion we have expressed from the first—that it is better for ironmasters to refuse American orders altogether than to execute them on a speculation which might prove ruinous. The loss arising from the one course can only be temporary: that which would spring from the other would in all probability be irrecoverable.

From Merthyr, we hear of the probability of a 20 per cent. decrease in the wages before long. The men are also placed upon half-time, and a six-weeks pay is adopted. One or two furnaces have been blown out, and inclinations of a riotous tendency are said to be occasionally shown. During a recent visit to the town and neighbourhood, however, we observed nothing of this sort, although many of the men were leaving for other parts. At Aberdare, several hundreds left last week for the north of England, in the hope of bettering their condition. In this place, also, one or two furnaces have been blown out. At the Treforest Works, in the Taff Vale, the whole of the men have been discharged, and business is entirely suspended. The majority of the hands have also gone to the north of England. At Cyfarthfa and Beaufort, similar events are taking place, though the depression is not felt to the same extent: at the latter place, a blast furnace has been blown out, and a reduction of 15 per cent. in wages made. Blaina is in a very dull state, and one or two coal pits have been stopped. In the Plymouth Works alone, situated near Dowlais, are signs of prosperity observable. Here, we understand, orders have been received sufficient to last two years, and a furnace which was recently blown out has been relighted. The event was celebrated by the men, by firing off cannon, and other noisy demonstrations. The Penydarren Iron Company, on the contrary, have it in contemplation to blow out two of their furnaces.

These circumstances have, of course, put a stop in a great measure to the improvements which were being carried out in many parts of Glamorgaonshire. At Aberaron, new gas-works for lighting the town were in progress, and are still likely to be completed in time for the winter—that is, if an absurd movement to frustrate the project is not successful. Some of the inhabitants of the town greatly prefer darkness to light, but it is to be hoped these will be found in the minority. Dock enlargements are going on at Milford, Swansea, and Newport, slowly but, perhaps surely. The last returns relative to the shipping trade of Swansea display a gradual increase, the registered tonnage entering the port during the month of October showing an excess of 5072 tons over the corresponding month of last year. At the present moment, however, less activity prevails.

The disagreement among the colliers employed at the Church Colliery, in the Rhondda Valley, has been, we are happy to say, peaceably concluded. The men have returned to their work quietly, and the manager is in confident hopes that another turn out will not occur there for many years.

Three fatal accidents have occurred this week—one at Aberdare, one at Merthyr, and one at Rhymney. In neither case is any blame to be attributed to the colliery authorities.

I enclose you an interesting notice of the new iron district in South Wales [inserted in another column], which is likely to attract very considerable attention. Those interested in the trade would not regret a visit to the locality, which is easily accessible.

## STOCK, MINING, AND RAILWAY SHARES IN IRELAND.

[FROM OUR CORRESPONDENT IN DUBLIN.]

Nov. 26.—The Stock Market has improved this week, and a better tone prevails; shares are without alteration, but business has been more active. The greatest confidence prevails in commercial circles here; there is almost an entire absence of failures, and good paper can always be readily discounted. General Mining Company shares have advanced. The following are the latest quotations:—Consols, 89½; New Three per Cents., 89½; Bank of Ireland Stock, 234; Hibernian Bank, 32¾; National Bank, 34; Royal Bank, 21¾; City of Dublin Steam, 36; Consumers' Gas, 7¼; General Mining Company, 1¾; Mining Company of Ireland, 15; Wicklow Copper Mine, 32¾; Ballymena Railway, 49; Cork and Bandon, 8¾; Dublin and Kingstown, 160; Dublin and Wicklow, 4¾; Great Southern and Western, 97¼; Midland Great Western, 48; Waterford and Limerick, 18.

I promised you last week a few remarks on my visit to the General Mining Company's property at Silver Mines, county Tipperary, and you shall have them; not in Mr. George Henwood's fluent and comprehensive style, for the day was not sufficiently long for me to indulge in photography: on no other account, however, can I offer an excuse. This I will freely admit, for the day was sufficiently clear, and the prospects at the mines sufficiently bright, to allow any indulgence in that enticing art; but even were it not so, the developing process used by the excellent manager, Capt. King, and which he has been employing since he became connected with the property, ought to bring out excellent specimens in any weather. Well, taking Limerick as my starting point, I left shortly after eight o'clock for Silver Mines, on an open car, being a distance of 18 miles—at least I was charged for 18, but I believe this was rather long measurement—and, after a very cold but interesting drive, I arrived at Silver Mines about half-past eleven o'clock, passing the Limerick and Ennis and Limerick and Castle-Connell Railways on my way. The country from Limerick to Silver Mines is open, and highly cultivated. Capt. King received me kindly, and I accepted his invitation to spend that night at his house, in order that I might have more time to see the property. We first visited the sulphur mine, which up to a late period was almost, in fact, entirely neglected; and Capt. King's anxiety to serve the company at length overcame the difficulty and expense of carriage to Dublin, and a cargo has been landed here, which I hear can be sold at a fair remunerative price. The sulphur is excellent, and the stones unusually rich. The sulphur is not, however, the only purpose for which this portion is worked, but in anticipation of cutting lead or copper; the lodes dipping in the direction of Gurtnadyne the calculations were not amiss. In my presence the men, about six in number, were cutting into fine lead and sulphur ore, and while I was there Capt. King discovered copper in one of the specimens, and thinks it likely it may be found more abundantly. I also found solid cubical lead and blende, and if the indications are followed up, deposits of lead and copper may be found, as in Gurtnadyle. The run of the lode is east and west. This mine is on the side of a large hill, and is easily worked; at present they have only made a cutting at one point; the indications are sufficiently strong to warrant careful searches, independent of the sale of the sulphur ore. The lead has the appearance of being argentiferous. The Ballynoe Copper Mine was the next we visited, and this is strongly bearing out the opinions always entertained of it by Capt. King; it is at present more than paying cost, while the indications are excellent. It is situated in a kind of clay-slate shale, and favourable for mineral and for working. The north part of the lode is looking remarkably well, and it is intended to drive along the north wall east and west. The expectations of this mine are sanguine. Some excellent and very inexpensive machinery has been lately erected to pump the water, which is done by allowing a stream of water from the hill to flow into a wooden trough furnished with a sluice-gate, and fixed at one end of an horizontal arm, a pump being attached to the other, when the trough becomes filled it falls by its own gravity, and the arm acts on the pump at the other end. The stream of water is continuous: thirteen people are employed here underground, and five dressing ore above. In the Gurtnadyne Mine no new feature has presented itself lately, and it would not repay a visit underground. It is at the East Shallee Mine, however, that the principal discoveries have taken place. At Gleeson's shaft, where some large quantities of fine lead were raised by this company before at the surface levels; very fine lead, worth 50*l.* per fathom, has been discovered on opening more surface ground, lying immediately under the clay, and only 6 feet from surface. It will be all well if this lasts, but it is not expected that it will; it is immediately over the lode discovered in the level from the new shaft, and it may be a deposit or a string dipping to the new lode. At the new shaft, sunk 15 fathoms, and from which an adit was driven 27 fathoms, a new lode has just been discovered, and this is by far the most important portion of the property at present, it being a most interesting feature to cut lead at this spot, which is 25 fathoms lower in the hill than any of the other mines; and there is scarcely a doubt that if this lode continues rich it will be the means of opening up the entire property at Shallee, and making the company a dividend-paying one in a very short time. I shall most likely allude to this again, and give you some further general information about the property and its prospects next week.

## INDUSTRIAL PROGRESS ON THE CONTINENT.

[FROM OUR PARIS CORRESPONDENT.]

Nov. 26.—All apprehensions of a panic—for there are no legitimate reasons to warrant what is termed a crisis—appear to have passed away. That some of the manufacturers here of furniture, and goods known by the denomination of *articles de Paris*, as well as the silk manufacturers of Lyons, and shippers at Havre, Nantes, and Bordeaux, may suffer from the collapse of the American market is probably, but certainly not to such an extent as might fairly be anticipated, for though the purchasers are in New York, the paymasters are mostly in London. It will, therefore, be no surprise that while English houses stand firm confidence should be maintained here. The fact that the crisis has ceased in England and Scotland has given tone and firmness to the French market, sent up the Three per Cents. 1½ per cent., and improved the quotations of all kinds of securities. In the metal trade, pig-iron still suffers from the scarcity, or, to speak more correctly, from the dearness of money; but we hear of no furnaces being blown out, nor of sales being forced, which would authorise the opinion that the resources of French ironmasters are intact, and fully able to face all difficulties. A sale of refinery pigs has been effected at 6*l.* 4*s.* 2*d.* a ton, but the other sorts are unsaleable in presence of the fall on the Glasgow market. Wrought and other irons are in active demand; rolls, free in any of the Eastern Railway stations, at from 13*l.* to 13*l.* 12*s.* 6*d.*; forged iron, in the station nearest the works, at 14*l.* 16*s.* 8*d.* Some alarm is felt among ironmasters respecting the effects of the decree of October 17 last, which provides for the free admission of foreign irons intended to be worked-up into goods for exportation. It is contended that British and Belgian irons will drive native iron out of the foreign market, and thereby reduce its consumption and price. I fancy the alarm is more imaginary than real; that it has no trustworthy foundation, for the consumption exceeds the production of French iron, and manufacturers, shipbuilders, and machine makers, are compelled to draw their supplies of the raw material from abroad, or else they would be obliged to reduce their works, if not to shut them up entirely.

Copper has declined; Russian is quoted at from 124*l.* to 132*l.* the ton, according to brand; Lake Superior at 120*l.*; and Chili 112*l.* the ton. Tin has also fallen—English to 126*l.*, and Banca to 130*l.* the ton. Lead has a tendency to fall; and Silesian spelter is quoted at 20*l.* 4*s.* 2*d.* the ton.

The Electro-motive Action of the Earth has received some further illustration from the researches and experiments of Signor A. Palagi; in the course of which it was ascertained that an inconstant current was produced by metal elements of the same or different natures, plunged in running or still waters, and that the current is irregular, varying in direction, not only with the points of immersion, as shown by M. Becquerel last year, but also with the weather in the same locality. Two similar plates of copper were plunged in two wells—one in each—65 ft. apart, and connected by a copper wire 550 ft. in length. By means of a multiplicator-galvanometer the current was observed regularly four times a day during three months, and found to change direction without affording a regular proceeding of the phenomenon. A zinc plate was substituted for one of the copper elements, but without any alteration of the results. Last May a piece of coke, of irregular form, and weighing 6·6 lbs., was placed in a well, and in a second well was placed a zinc plate 9⅛ inches long by 6¾ inches broad, and not quite ⅛ inch thick. The current was found, relatively speaking, of considerable intensity. The coke element was next placed in the second well, and the zinc plate in the first well. The resulting current was of the same intensity, and proceeded along the connecting wire in the same direction, from the coke to the zinc element. The current was measured several days successively, and found invariable, except at the moment of immersion. A portion of coke was broken, and substituted for the original coke element, without materially diminishing the intensity of the current; the same result was obtained from a similar proceeding with the zinc. The elements were then plunged only partially in water, and the same results obtained, so long as the coke remained moistened. Lastly, the coke was replaced by a series of pieces connected together by wire, and the intensity of the current was found to increase with the number of the pieces; the same result was obtained from a like proceeding with the zinc element. From these experiments Signor Palagi draws the following deductions:—That the dimensions of the elements exercise little effect upon the intensity of the current; that the intensity of the current increases in proportion to the number of pieces of coke or zinc that are employed; that this increase is not due to the increase of surface obtained by using several pieces, as is sufficiently proved by coating with shellac the additional surfaces; that if the zinc elements touch the earth the current ceases, or becomes very feeble, and changes its direction; that if the pieces of coke touch the earth the current is not changed, and has a tendency to increase in intensity; but if one of the connecting wires touches the earth the current is reduced to what it would be were all the pieces of coke following the point of contact taken off; that if the plates of zinc are brought into contact with each other, the current ceases completely; while, if the pieces of coke touch each other, the current is not materially diminished, but remains superior to the current that would be obtained from a single piece, equal to the total of the cubical contents of all the pieces. The greater the distance between the elements of the series of zinc, or of the series of coke, the greater the energy of the current: that if the zincs are withdrawn from the water and replaced therein without being carefully wiped, the current is diminished in energy, if wiped, the original energy is acquired again; while the omission of wiping produces no effect upon the coke—the amalgamation of the zincs increases the intensity of the current. The series of coke and of zinc may be placed in the same well or wells, at a distance apart: they may be suspended vertically or supported horizontally by floats. The currents thus obtained have been successfully applied to electrotyping, and clocks, alarums, &c. Subsequently, experiments were made to ascertain the effect of distance between the series of elements. On Sept. 20 last, 12 plates of zinc, measuring 8 in. by 4 in., and connected together, were placed in a well at Batignolles, and 12 carbon elements of Bunsen's battery, measuring 8 in. in length by 1¾ in. in diameter, and connected together, were placed in a well at Asnières. The distance apart was 3280 yards, and the circuit completed by means of the existing telegraph wire. The current communicated movement to two of Breguet's apparatuses, placed in the circuit, in a very satisfactory manner. On Oct. 16 a chain of 45 carbon elements were placed at Asnières, and one of 24 zincs in the Seine at Chaton. The distance between the two localities by the telegraph wires was 13,128 yards (nearly eight miles). Breguet's apparatus did not work satisfactorily, but Wheatstone's did. An indicator gave 7° of deviation, with a single carbon element, and 15° with the whole 45. Between these two points the deviation was proportionately progressive, according to the number of carbon elements used. On Oct. 30 a chain of 24 zincs was placed in the Seine near Rouen, and one of 45 carbon elements at Asnières. The distance by telegraph wire is 131,256 yards (about 74 miles). Wheatstone's apparatus was enabled to be worked, and with even one carbon element.

The gunmakers of Liege have been lately doing a very prosperous trade. They have just finished an order from the British Government for 20,000 muskets, and a like number of bayonets, the value of which is 48,000*l.* The finish of the arms is said to be admirable, and so it need be, for out of the price (48*s.* each) the materials cost only 9*s.* 6*d.* The total orders for the year are 80,000 stands of infantry and artillery muskets, 3000 cavalry carbines, 35,000 bayonets, and 15,000 other arms, giving a total value of 258,000*l.*

## GOVERNMENT SCHOOL OF MINES.

On Monday Mr. Warington W. Smyth concluded his remarks on the "Characteristics of Lodes and Beds." After a brief *resumé* of the modes of sinking and driving on lodes, and the method of driving adits, the lecturer stated that it was necessary the nature of the deposit to be worked should be noticed; and the occurrence of another kind of rock was often of great importance. If it were in a bed this would not be continued, but if a vein it would be so, unless under special circumstances. The outcrop is often deceiving in beds, and these ought to be specially investigated. If, however, they discovered a good outcrop, and even ore was found, and all true indications of minerals, this was not alone sufficient. In taking up a mine there were a number of circumstances to be considered; they would have to investigate under what conditions they were to obtain possession, and if a heavy fine was to be paid. They must look likewise to the dues likely to be levied; whether the mine was burthened with rates and taxes. The capitalist would have to consider whether he would embark his money there or, *ceteris paribus*, invest it in Prussia or some other countries, where mines enjoyed a greater immunity from imposts. Another important point to be considered was the terms of the lease, and how long the parties taking it up would be enabled legally to retain possession. A question would arise as to what power there was—whether water or steam; if the latter, then the price of coals formed a considerable item. Water power, where it could be obtained, was always desirable. In South Wales, the mines in the neighbourhood of Aberystwith had received great assistance from the supply of water, and reservoirs had been constructed for the purpose of preserving it. Leats for some considerable length were made. When they went through clay-slate it was easier and preferable to mountain limestone. There was great difficulty in blasting the latter, and the water was apt to ooze out, so that there was no security of preserving it, unless great precautions were taken, which were invariably attended with great expense. This was particularly attended to in the district of the Hartz, in Saxony; and at Kremnitz, in Hungary, the water was brought from the Lower Carpathians, a distance of 12 miles. They were aware the gold there was discovered in very small quantities, and worked to a profit; this he should have further to notice subsequently. Thirdly, they had to study what advantages of carriage they possessed. There were some collieries so near a railroad that they had their own siding; other so advantageously situated that they could, by a short tramway and a shute, at once place their coals on board a ship. Canal boats and horse-paths had all to be taken into consideration. In this country they had every variety of carriage. In some places, where the roads were bad, they had to employ ponies or galloways to carry coals to the mine and ores from it.

Another point, which is of great importance, is if wood be at hand; and this is highly necessary where smelting operations are carried on. Especially in soft ground, a great deal of timber is necessary. In certain parts of the Continent pine is preferred, and a great quantity of this grows on the tops of the mountains. In the Austrian Alps, where there are several torrents, the wood is cut in lengths, and then allowed to float down the stream, and is received at places where the current is dammed up by gratings. The wood generally employed in mines is oak, larch, and two or three kinds of pine. The white beach is particularly valued in Germany for charcoal. Wages must likewise be looked into, not only as regards the labourers, but likewise the management; and instances have, of comparatively recent date, shown how by incompetence and mismanagement mines had been spoilt. It had often been mooted as to the comparative value of free and slave labour: this might, perhaps, occasionally be called into question. Though slave labour no longer existed in Europe, it had been principally used in the Greek and Egyptian mines. The slaves performed a given task, and there was no amount of useful knowledge collected from their practice. Much likewise depended upon commencing the works on a suitable scale for working the mine with a due regard to the funds of the company. In some cases over-building is commenced in the first instance; this is always a great error. It is much better that all buildings should be commenced on a limited scale, and afterwards extended as the establishment increased. In all cases it is a great assistance to set forward with a given plan of operations. Materials should always be at hand, especially where the means of transport are bad, and the mines were at a distance from mechanical help, and a difficulty of obtaining them likely to arise. In many cases the absence of this precaution might lead to a suspension of the mine.

There are many circumstances where it is not convenient to sink shafts where boring may be found eminently useful. Borings may be from 1½ to 12 inches in diameter, and in depth from 10 to 300 fathoms. The lecturer then referred to a diagram, where the comparative depths of shafts and bore-holes was illustrated. The deepest shafts were those of Kuttenberg, in Bohemia, abandoned more than a century ago; the Rohrbucket, in the Tyrol; the Samson Mine, in the Hartz, 400 fms.; Treavean, in Cornwall; and the Monkwearmouth Colliery, which was the deepest coal mine. The deepest bore-holes (this he stated on the authority of the French missionaries, and he had no reason to doubt its authenticity) were in China, where they were to the depth of 3000 ft. The deepest in Europe was at Mondorff, in Westphalia, 400 fms.; the Artesian wells at Grenelle, 300 fms.; and at Trafalgar-square, which he would not boast about. There was one attempted to be bored at Kentish-town. The directors of the Water Company, when they had proceeded a considerable distance, lost spirit. It would have been of great importance had this been prosecuted, as probably the question of the coal measures could have been ascertained. The French engineer who superintended the works would have given his services gratuitously, if they would undertake to pay the workmen's wages. When a large building, such as a church, is to be erected it is always necessary to look after a secure foundation by boring. When railway cuttings are to be made, contractors bore to ascertain the nature of the ground; though in some instances haphazard persons neglect this precaution. Explorations by boring in mines are sometimes of great utility, especially in stratified rocks, to ascertain their condition. An accurate register of the different strata should be kept. Diagrams were shown, illustrating the difficulty of boring through faults. The bore-holes were useful, as well for getting rid of water as for communicating air. In some cases, as at Paris, they are employed for bringing fresh water to towns. In China and Germany they are used for obtaining brine springs. The only two they had in Great Britain were at Trafalgar-square and Kentish-town; the latter had proved a failure. He would not now enter into the subject of Artesian wells; a practical knowledge of geology was necessary to the understanding of them.

At a coal mine in the district of St. Etienne, where there were two seams of coal, one worked above the other, a sudden irruption had taken place when the men were down in the pit. The people who attempted to deliver them were in some old workings: they found they should have to drive through 18 metres, which they attempted first to do by a level, but finding this would take too long a time, they drove a bore-hole; and although the sufferers had been shut up there 120 hours, yet they had good heart. Food was sent to them through a tube, and ultimately they were rescued from the impending death which awaited them.

The lecture by Dr. Percy, on Wednesday, was on "Copper Smelting," as practised at Roraas. There the first calcination was effected in the open air; afterwards, the ore is fused in a blast furnace, the products from which are again roasted, and then fused, which produces an imperfect variety of copper, called black copper; this is afterwards roasted, and then refined, which takes place in a circular furnace, with charcoal. They must remember the operations of the blast were of a reducing nature, not oxidising, as in the reverberatory furnace. M. Duchenois, in the *Annales des Mines* for the year 1852, had given an elaborate account of the process as carried on at Roraas, and he should therefore give them an account upon his authority. The average percentage of the ores there was 4·48 per cent., which they would see was considerably less than those smelted at Swansea.

Process I.—The calcination of the ores. This was always performed in the open air, in general when the snow was on the ground, on account of the sulphurous vapours, which might otherwise damage the fields in the surrounding districts. The ore, which in square or round kilns, built of dry stones, about 20 metres long by 6·5 metres broad, and 2·7 metres deep. In general, one of these kilns would hold about 2400 metrical quintals. Holes are placed at intervals in the kilns, to allow a free circulation of the air. A bed of wood is laid on the bottom, consisting of two layers, which are placed at right angles; there must not be too large a quantity of this, as the ore will be liable to fuse, and an imperfect calcination will take place. On the top of the heap is placed a quantity of *schlech*, or smalls, in order to prevent the mass burning too quickly.

some of these heaps will remain alight for at least two months, the sulphur in the ore being its own fuel. One remarkable thing to be observed in many of the stones is, that they preserve their form, but are increased in volume; in the centre, when these are broken a kernel will be found, consisting nearly of disulphide of copper. The results are apt to be agglomerated with the sulphur arising from the ore.

Process 2—The fusion of the ore. This is effected in a blast furnace, from 14 ft. to 15 feet high. They are obliged here to use the materials they have at hand, for it is not always people are enabled to obtain Stourbridge bricks; this is constructed of argillaceous schist, with an outer casing and an inner lining, this last requiring to be renewed very often. In general, two furnaces are built together. A very elaborate and highly executed model of a single furnace was then exhibited and described by the lecturer. The tuyeres, or, as they are corrupted in English, the twyers, are placed at a distance of 0·31 metres, and 0·94 metres above the hearth, the brask being formed of clay and charcoal powdered. A cavity is hollowed out of the brask, about half a metre in depth. An arch of brick or stone is constructed above the hearth, which can be opened or closed, as circumstances require. The furnace is worked with a short nose. The difference between this and the long nose, by the prolongation of the slag, was then described. The pressure varies, according to circumstances and the practical knowledge of the smelter. The furnace is filled with charcoal to the tuyere, and charges of slags and charcoal are let in the furnace; afterwards, the ore is let down. One of these furnaces will smelt continuously from six to six and a half days; sometimes they are clogged up by large masses, which are called bears in Staffordshire, horses in Wales, wolves in France, and sows in Germany. The matte is allowed to run over a large surface, and two or three tappings take place in every three or four flows; after tapping the blast is lowered, and if there be a bear in the furnace it is taken out. The products are a matte of from 19 to 22 per cent.; the colour is bronze, like that of coarse metal. The slag in general contains from 0·23 to 0·4 of copper, and is thrown away. In some of the furnaces the ferruginous masses are of considerable weight, and contain sulphur, cast-iron, a little copper, and other matters which may be in the ore, the fumes being collected in the condensation chamber.

Process 3—Roasting the matte. This operation is performed in a series of kilns, either elliptical or square, with an opening in front, under a shed, or other cover. The matte is broken into pieces the size of walnuts, and placed on wood, which is laid at right angles, in the same manner as in the previous calcination. These kilns are 1·25 metres wide, 2·17 long, and 1·5 high, and will hold about 44 metrical quintals. This roasting is repeated seven times: during the first the matte will burn for about 24 hours; this increases at each successive operation, the last being about four days. It may be considered that the whole seven roastings occupy three weeks.

Process 4—Fusion of the roasted matte. This is performed in a furnace of similar description to that used in the fusion of the ore: it is charged with roasted matte and ordinary skimmings; quartz is used, for on a proportion of silica the fusion depends. This furnace is worked with a long nose. The black copper, which is the product of this fusion, is tapped out into iron moulds of suitable dimensions for the purpose; the slag runs over the edges with some adherent matte, which is technically called "sporsteen." The black copper in general contains some iron, nickel, and cobalt. The slag collected, which is more or less impregnated, is melted in a subsequent process; the poor slag is reduced along with the ferruginous deposits and fume.

Process 5—Refining the black copper. This is conducted in a hearth similar to that used in the Indian way. Sometimes from 2 to 3 cwts. is melted at a time. At Roraas, the hearth is 0·63 metres in diameter, 0·2 in depth, and the tuyere 0·05. The inclination with the horizon at the bottom is 15°. The pieces of black copper which are broken are carefully piled one upon each other, the quantity being about 3·6 metrical quintals; it is placed so that it should melt drop by drop. A quantity of charcoal is placed on the top, which sometimes is damped with water. Any of the pieces which fall down imperfectly melted are again reduced. The metal is then skimmed and tapped, powdered charcoal being thrown on it to prevent oxidation. When the metal is tapped, as soon as set water is thrown on it, and is removed in discs, which vary in dimensions, the smallest being at the bottom, and successively increasing in size. The metal thus produced is called "rosette copper." It takes about three hours to effect this process. The chemical changes that take place are precisely similar to those that occur in Swansea. At Roraas, they only smelt at certain seasons, which is denominated a smelting campaign.

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University Honour to a Miner.—At the Durham University, on Tuesday, the degree of "Honorary M.A." was presented to Mr. Thomas Sopwith. In presenting the degree, the Professor of Mathematics referred to the success with which Mr. Sopwith had applied his great practical talents to the advancement of science. He instanced, in particular, the manner in which Mr. Sopwith has illustrated geological phenomena by the construction of models, conveying at once and perfectly to the eye that which could with difficulty, and but partially, be accomplished by means of plans and sections. This system is not to be regarded merely as an ingenious philosophical curiosity, for it has been made the means of giving to the Government and to the country the most perfect geological representation of the Forest of Dean. Mr. Sopwith had also availed himself of the important position which his abilities have secured for him to communicate to many of the intelligent working classes a knowledge of sound principles; and exerted himself with great energy and success in promoting education among the populous mining districts which he superintended.

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Mexican and South American Company.—Pursuant to the resolution passed at the meeting of shareholders on the 12th inst., reported in the *Mining Journal* on the 14th, Messrs. Sewell, Fox, and Sewell, the solicitors to the shareholders, presented a petition to the Rolls' Court, signed by the directors on their behalf, to wind-up the company. The case was heard before the Master of the Rolls, on Tuesday. The petitioners, who held upwards of 8000 shares, were represented by Mr. H. Terrell and Mr. Stiffe; Mr. Roxburgh, and several other counsel, appeared for some of these shareholders individually, and Mr. W. Boyle for the directors. There was no discussion as to the propriety of winding-up, and the order was given as an unopposed order. But there was some discussion in reference to another petition, said to be on behalf of another section of shareholders, holding 1300 shares, represented by Mr. Roundell Palmer and Mr. Selwyn. This petition was, in point of fact, a copy of the original petition, framed likewise for the winding-up of the company, but containing an allegation that the directors ought to be held liable for the debts of the concern. An objection was taken to this petition—that it was presented at a later date, and had not been duly advertised. The counsel for the second petition strongly urged that the order ought to be granted upon it, that the conduct of the directors, and the claims upon them, might be fully investigated. The counsel the shareholders to the original petition resisted the application, as a simple attempt of another solicitor to obtain costs from the unfortunate shareholders on a duplicate copy of their own petition. The Master of the Rolls refused the application, and gave the order on the petition of the directors and shareholders represented by Mr. Hull Terrell, observing that even if the other petitioners should comply with the requirements of the Act, and place themselves in a position to come before the Court, he hoped, for the benefit of all, he should hear no more about it. Any shareholder could appear before the chief clerk, and the Court would take care to protect the interest of all concerned. The counsel for the duplicate petition applied for costs, which his Honour refused. The order for winding-up is now granted, and it is a matter of great importance to the shareholders in this unfortunate undertaking that the costs should be kept as low as possible. Before the order was granted, any one who had received dividends, or paid calls, or performed any act in the company, was liable to the creditors for the full amount of the debts of the concern; but it is considered that, under the Winding-up Act, most of those parties will not be held liable to contribution; the prevalent opinion of the legal authorities being, that the parties who received the last dividend, or paid the last call, will alone be held liable. Mere scripholders, it is supposed, are exempt from all responsibility; but as the case is altogether new, much uncertainty exists on these various points, and the more so as the exact legal position of the company is not fully understood. It may be as well to observe, that whatever the contribution may be, it would be *pro rata* on the number of shares held. The winding-up has proceeded under the direction of a number of the leading shareholders, who are fully determined to be liberated from their position of individual responsibility, and who required that the directors should render every assistance in the adjustment of the company's affairs. A considerable number of dealers and speculators in shares have been very desirous to resist this course, in the hope of avoiding the liability to contribution. They make various charges against the directors, including those published by Mr. Alison, and claim that the directors only are personally liable for the debts of the concern, and that the scrip holders are not responsible at all. Other parties complained of the resolution for winding-up passed at the shareholders' meeting, as they otherwise might have subscribed a sufficient sum to carry on the concern. The shareholders to whom the order has been granted propose to make a contribution forthwith to meet the pressing debts, to realise the assets in Chile, and to dispose of the works, with the assistance of the creditors and directors, by which means they expect to discharge all the liabilities, and return the amount of contribution. In this course there is some prospect of their being opposed by the parties referred to, who on various pleas seek to involve the concern in litigation, and for which several solicitors and official managers are already in the field. Under such circumstances, it is quite possible that the assets of the concern in Chili may be sacrificed, while a call will have to be made for the whole of the liabilities, and very large amounts spent in law costs.

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American Locomotive Engineers.—A National Protective Association of Locomotive Engineers has been formed in New York. At a meeting of the body, on the 12th inst., 31 railroads, in 14 of the United States, were represented; and since the association was projected (two years ago) about 2500 engineers have taken an active part in the movement. The meeting held that the rapid multiplication of railroads in the United States has caused a corresponding demand for locomotive engineers, and through the facility which the absence of any license laws or standard of qualifications have afforded many persons, wholly unqualified for the responsible post of locomotive engineer, have attained to that position, to the injury of the profession, to the detriment of others engaged in that business, as well as to the hazard of the interests of the corporation who employ them, and the great jeopardy of the travelling public. The associated engineers are devising a plan to be submitted to the several State Legislatures, having for its object the passage of an Act to form a board of examiners, so that no person pass the ordeal but competent, practical locomotive engineers.

Great Steam Invention.—An American, Mr. W. St. Martin, has invented an engine which can be constructed, inclusive of boiler, for about 10*l*. The machine is extremely simple, the steam being admitted into the centre of a drum or cylinder, in which the shaft works; from this the power is applied directly without further friction. Although this invention has been attracting much notice in America as a marvellous novelty, it is evident that it is simply an improved rotary engine.

Explosive Wooden Shells Fired by Friction.—Capt. Norton fired one of these shells from on board the passenger steamer that plies between Rosherville and the Tilbury Station. The cord which was attached to the eye of the frictional iron nail was hooked on to the tafrail, and the guard twine being then cut, the captain threw the shell over the rail, when it instantly exploded with a loud report within 15 in. of the water, the attached cord having been previously adjusted to that length. This is one of the shells that may be used for house defence, railway signals above accumulated snow, for destroying lions, tigers, hyenas, &c., in the act of seizing the attached bait; also for sea sharks, and an alarum signal against house-breakers. The frictional contrivance might have been used with good result in exploding shells.

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At the Manchester Association for the Prevention of Steam-Boiler Explosions, &c., usual monthly meeting, on Tuesday, Mr. R. B. Longridge, the chief inspector, presented his report, from which the following are extracts:—During the month 335 visits have been made to members of the association, 815 boilers inspected (37 of these internally), and 30 engines indicated. The following are the principal defects which have been observed:—One boiler dangerous from over pressure; one boiler dangerously injured from deficiency of water; seven boilers injured from the same cause, but not to such an extent as to render them at present unsafe (with one exception these have been before reported to the proprietors); eight boilers defective from corrosion or fracture; seven water-gauges, and seven safety-valves, out of order.

in defence of the residency of Lucknow, against the assaults of the mutinous Sepoys. Specimens of these shells are to be seen at the South Kensington Museum of Inventions.

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## WEEKLY LIST OF NEW PATENTS.

GRANTS OF PROVISIONAL PROTECTION FOR SIX MONTHS.—F. B. Anderson, High-street, Gravesend: Mechanical slow match for submarine or other blasting and mining operations.—I. Jones, St. Helen's: Manufacture of sheet glass.—W. Clarke, Laybourne-road, Camden-town: Connecting and working breaks for railway carriages.—R. A. Margetson, Norwich: Communicating between the guard and driver on railways.—J. Luedeke, Birmingham: Motive power engine.—J. Slofer, Oxford-street: Motive power for propelling ships or driving machinery.—J. Fraser, Glasgow: Manufacture of saltpetre.—W. Greening, Lower Edmonton: Enamelling and ornamenting metals and other surfaces.—T. S. Prideaux, Charing-cross: Apparatus for regulating the supply of air-furnaces.—H. J. and J. Vialet, Essex-street, Strand: Signals on railways, and preventing collisions.—S. Hoga, Charlotte-street, Fitzroy-square, Electric telegraphs.—J. Williams, Neath: Coupling and connecting carriages on railways.—J. H. Bennett, Leith: Compound safety-valve.—J. Fereday, Wolverhampton: Improved form of steam-engine.—S. P. Smith, Cresent, New York, U.S.: Iron wheels for railway carriages and similar purposes.—R. A. Brooman, Fleet-street: Gas burners.

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Manufacture of Iron and Steel.—Mr. J. C. Haddan provisionally specified an invention which has reference to the application of combustible or other gases employed in the reduction of metal, such as hydrogen, carbonic oxide, carburetted hydrogen, or a mixture of these gases for the decomposition of the phosphides, sulphides, and oxides of iron; and also for the decomposition of certain combinations of nitrogen and iron which are formed when molten iron is treated by passing atmospheric air through it. The chief feature in the invention is the use or employment of the gases in such a manner that their use can be alternated with that of atmospheric air or steam without accident or explosion.

Extracting Gold and Silver from their Matrices.—Mr. J. Gibbs, Abingdon-street, Westminster, provisionally specified an invention for extracting gold and silver from their matrices. The usual course of proceeding has been, when the object has been to extract these metals from rock, to crush such rock, quicksilver being in contact with the rock so crushed and whilst being crushed, or to crush the rock and wash the crushed rock, so that the metallic portions of the rock may be separated, and then to run this separated part over a surface of quicksilver in and through machines called Tyrolean Mills, or otherwise to work the materials through revolving barrels with adequate charges of quicksilver; and in the case of gold and silver being in combination with primitive gravel, or diluvial sand of the geologists, nothing but simply washing has been commonly resorted to, except in some cases the run of water from the washing apparatus has had placed in it or under it a surface of quicksilver, over which the water glides, and on which surface of quicksilver some of the smaller particles of clean gold are caught, and which would otherwise be lost. From great research and numerous experiments in endeavouring to ascertain the best method of extracting gold and silver, it appears that none of these methods are adequate to the purpose of obtaining all or nearly all the gold and silver contained in either the rock, or in the sand, or diluvial gravels. This invention consists first, in washing the diluvial sands and gravels so as to obtain about 1-30th part of the original bulk, which the inventor calls concentrating; and secondly, in re-grinding or re-crushing this material so concentrated, the crushing machine being at the same time charged with quicksilver; he causes the concentrated material to be ground so fine, that it shall, while passing and repassing over the surface of either, resemble mud; and for the more perfect grinding, and to carry off the muddy substance when so formed, he causes water to flow through the crushing machines; and thirdly, he sometimes melts this concentrated material instead of grinding, as described in the second part of the invention. And for the more perfect operation of some of the processes described, and for maintaining the quicksilver in a state of greater fluidity, he causes a small quantity of nitre from time to time to be put into the crushing machine while the process is being carried on.

Electro-Plating and Depositing Metals.—Messrs. Landois and Daniel, Paris, provisionally specified an invention for improvements in electro-plating and depositing metals. The bath or solution of silver or other metal to be deposited is prepared by adding tartaric acid to a double cyanide of potassium and the required metal, so as to precipitate a tartrate or bitartrate of potash, leaving the metal in the solution, which is then in a fit state to be employed for the electro-deposition of the metal. Thus, to make a gold bath or solution, two ounces of chloride of gold are dissolved in five pints of distilled water, to which are added about five ounces, more or less, of cyanide of potassium, or a sufficient quantity to convert the chloride of gold into a double cyanide of gold and potassium. The solution is placed in a stoppered glass vessel, and there is added about two ounces of tartaric acid, or a sufficient quantity to precipitate the potash of the cyanide in combination with the tartaric acid. The vessel is immediately closed air-tight, or the liquid is submitted to pressure; when the tartrate has precipitated and the reaction is complete, the vessel is opened and the liquid is filtered; the tartrate remains on the filter, and the solution which passes through the filter is then ready for use. If not sufficiently acid about half an ounce of tartaric acid is added to it. A silver bath or solution is prepared in the same manner, substituting nitrate of silver for chloride of gold. The silver solution should be neutral or nearly so. The above-mentioned proportions admit of variation. Solutions of other metals are prepared in a similar manner. These solutions are capable of being employed for depositing metals on a great variety of other metals.

Railway Chairs.—Mr. J. Ramsbottom, Longsight, Manchester, proposes to manufacture railway chairs so that the rail is placed within jaws, slightly more open at the top than at the bottom. Wooden packing is supplied between the rail and chair, so that the weight passing over the rail tightens it rather than otherwise.

Railway Economy.—Dr. Thomas Richardson and Mr. Browell, of Newcastle-on-Tyne, have patented an invention for improvements in treating waste wooden sleepers. In the construction of railways much wood is employed for sleepers, prepared by tar or products obtained by distillation from tar. They remove all adhering dirt or other foreign matter before subjecting them to distillation. This waste timber may be used whole or cut into small faggots, and by preference should be air dried for some time previously. In the distillation they employ the arrangements and apparatus now in common use for making coal gas, merely washing the gas with a weak solution of soda before passing it into the lime purifiers. This gas, which is obtained, in addition to the tar and other products, is suitable for use for illuminating purposes. The retorts are heated to a cherry or bright red heat—the higher the temperature the better for general purposes—and about 1 cwt. of the timber introduced. They drive the distillation as rapidly as possible, and work off the charge in from two to three hours, according to the kind and state of the timber. The charcoal is withdrawn, and the fire extinguished by water and charcoal powder. The gaseous products require more lime for purification of coal gas, but they possess the great advantage of being free from sulphur compounds, and may be used either alone or mixed with ordinary coal gas. The liquid products of the distillation, which are arrested in the hydraulic main, principally consist of the tar and acetic acid, and these may be separated and treated in the usual manner, in which case the tar, when distilled, will furnish the compound known as "dead oil," which may be at once employed for the preservation of new sleepers and bearers in the ordinary manner. But instead of distilling the tar for the purpose of obtaining the dead oil, they prefer to mix with it a solution of caustic soda of about 1·13 spec. grav., or "red liquor" of about 1·30 spec. grav. They heat these mixed fluids to a temperature of from 90° to 100° Fahr., and force this warm solution into the cylinder containing the timber, with the usual precautions. By thus mixing the tar with these solvents, they render it perfectly fluid and suitable for use in preserving timber, whereas, heretofore, in order to obtain a preserving liquid of sufficient fluidity to be successfully employed for this purpose, it has been necessary to distil the tar, and so separate it from its bodies, which, although they have considerable preservative properties, render the tar too thick for use. Or instead of separating the acetic acid, they neutralise the acid by means of carbonate of soda; in this way they render useful the proportion of preserving material which would otherwise be lost in the acetic acid liquid. When it is not an object to collect the gas in distilling the waste timber, a lower heat and slower distillation will increase the production of the liquid products.

Railway Travelling—Intercommunication.—Mr. W. Symons, of Dunster, Somerset, proposes a new method of providing a communication between the passengers and the guard of a railway train in progress. The peculiar feature of this invention is, that it provides a simple and inexpensive method of allowing any passenger to communicate to the guard, whilst a train is in motion, a reason for wishing to stop the train. Two methods are provided for, which may be used either separately or combined. The signal apparatus is simply a cord passing along the centre of the carriages, under the roof, with proper arrangements to facilitate the abstraction or addition of carriages at intermediate stations, and to allow for the contraction, expansion, and vibration of the train while in motion. There is also provision made to enable the guard to reach the carriage from which he has received the signal. This arrangement consists of a rail which, when not in use, hangs at the side of the carriage, and only projects a few inches, but may be extended to about 18 in., so as to admit of the guard walking with perfect safety between it and the carriage; and while it may be applied to all existing English carriages, at probably a smaller expense than the French method, it will be a far more effectual protection to a guard when proceeding along the bottom continuous step to communicate with the passenger who may have summoned him. The second plan, which is complete in itself, and dispenses with the outside rail, enables a passenger to send a note to the guard, who, if necessary, may reply without leaving his seat, and should he see sufficient cause he can then communicate with the driver to stop the train. The apparatus for this could be applied to any carriage for a very small sum, and it would cost nothing to keep it always in working order. The signal could not be used without its being easily discovered from what seat it proceeds; and the inventor suggests that to prevent its being employed unnecessarily, an optional charge of 5*s.* or 10*s.* should be made, which might be enforced or not, at the discretion of any station master. A working model of the invention will, we understand, be exhibited at the Polytechnic Institution. It has been submitted to several engineers and scientific men, meeting with general approval; and we must admit there is great ingenuity in it, but of course its real value can only be estimated with certainty after practical application. We fear, however, the inventor will have some trouble in introducing his discovery, in consequence of the many patents possessed by those more intimately connected with railways and their management.

Deodorising Sewage.—Sir James Murray, M.D., of Dublin, proposes to use one or more condensing vessels or boats, placed in water, or in the ground, or above it, at equal or different levels, and fixed or moveable, as may be most convenient. The vessels are well fortified by walls, earth, or clay, puddling hoops, frames, bars, or other supports around them outside, so as to bear and resist a pressure of one to five or six atmospheres; they are also lined by metallic or other plates, timber, tiles, slates, or by suitable lutes, cements, gutta percha and India-rubber, resinous, vitrous, or bituminous covering, or by animal, vegetable, and mineral fabrics, adapted to render the inner surface of these condensers air-tight. These condensers are also furnished with strong pipes or tubes, having valves or cocks to admit or discharge sewage drainage, liquid manures, gas liquors, with any solid or other deposits, animal or vegetable, that may be suspended or commingled in these fluids. The vessels are also fitted inside with fans on axles or shafts suitable for agitating such liquid mixtures, and also revolving through streams of fixed air, so as to carbonate them, abate offensive smells, fix volatile vapours, and render the products or contents better adapted for land and crops, and to press on fluids to impel them and other bodies. Further, he generates within the vessels, or forces into them from separate generators, a great excess of fixed air, more than saturates the liquid manures, so as to compress their surface and force them up the pipes (when opened) to any convenient height or distance, or into other vats or condensers on a higher level, in order that by renewed impregnation and compression of fixed air, the liquid manures, with the solid particles previously contained in them, or afterwards added to them, may be forced into a higher vessel, or series of vessels or reservoirs. He obtains the fixed air from carbonates of lime or magnesia, or alkaline carbonates, bicarbonates, or subcarbonates, previously introduced into the condensers at the bottom, after which equivalents of a mineral acid, or acids diluted, or concentrated, or mixed in a dry state, with light, porous, or suitable animal, vegetable, or mineral powders, such as charcoal; or introduces acidulous, sulphurous acid gas, or other acid gases mixed in water or absorbed in carbon of peat, coal, wood, or the like, so that when agitation is rapidly going on, the above alkaline and acid ingredients may be brought all of them together, or one or more acid or alkaline carbonate, into contact, that the fixed air may be evolved, according to the well-known action of acid and alkaline carbonates on each other.

Improved Slate Working.—An improvement, which bids fair to supersede the dangerous system of blasting out the slate masses, has been introduced into several of the slate quarries in the Principality, and hitherto the operations have been very successful. By the improved method long square slabs, 1½ yard wide, can be worked out at the rate of 21 inches per hour without the slightest waste, thus preventing the waste of material and the accumulation of vast heaps of slate refuse. This method has been introduced into the Festiniog Quarries, and is suited to every incline in the slate formation. Slabs of slate 13 ft. in length and 14 in. in thickness have been successfully procured.

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Improved Steam-Boiler Furnaces.—A new steam-engine boiler, patented by Rear Admiral John Jervis Tucker, and Mr. George Blaxland, chief superintendent engineer at Sheerness Dockyard, has been under trial for some weeks, superintended by Mr. John H. Langley, inspector of machinery, on board the *Edinburgh*, for the steam squadron of reserve. The advantages the patent boiler possesses are—Doing away entirely with the tubes now used in tubular boilers, generating a larger supply of steam with a less quantity of fuel, and not being subject to derangements in heavy weather at sea, like the present boilers. It is reported that the Admiralty have granted permission for one of the large class gun-boats at Sheerness to be fitted with a boiler of the same description as the one now under trial, and she is to proceed to sea for a series of days, in company with a gun-boat of similar class, having the present tubular boilers fitted, in order fairly to test the effect in a heavy sea-way. A description of the improved boiler is at present in our hands, and we shall shortly publish it, with illustrations. We will only state at present that the improvements are of a very simple character, and that, from personal inspection, we are led to expect the best possible results from them.—*Mechanics' Magazine.*

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Railway Traffic.—The Traffic Returns of the Railways in the United Kingdom for the week ending Nov. 21, amounted to 421,670*l.*, and for the corresponding week of 1856 to 419,430*l.*, showing an increase of 2240*l.* The gross receipts of the eight railways having their termini in the metropolis amounted for the week ending as above to 169,889*l.*; and for the corresponding week of last year to 173,141*l.*, showing a decrease of 3252*l.*

The decrease on the Great Northern amounted to 2408*l.*; on the London and North-Western to 1819*l.*; on the London and Blackwall to 27*l.*; on the London and South-Western to 214*l.*: total, 4468*l.* But from this must be deducted 116*l.* the increase on the Eastern Counties; 682*l.* on the Great Western; 152*l.* on the London, Brighton, and South Coast; and 36*l.* on the South-Eastern; together, 1216*l.*: leaving the decrease, as above, 3252*l.*

The receipts on the other lines in the United Kingdom amounted to 251,781*l.*, and for the corresponding period of 1856 to 246,289*l.*, showing an increase of 5492*l.* In the receipts of those lines, from which must be deducted the decrease on the metropolitan lines, leaving the total increase 2240*l.* compared with the corresponding week of 1856.

Cornwall Railway—Saltash Bridge.—The hydraulic presses are most successfully employed in lifting the span of the bridge recently floated across the Tamar. On Wednesday last the west end was raised 3 ft. in about two hours, and the masons were set to work in building up underneath it. The second span is making good progress, and will, no doubt, be ready as soon as the season will allow of its being floated across.—*Cornwall Gazette.*

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"Handbook of Chemical Manipulation."—An extremely useful and intelligible treatise, calculated alike to meet the wants of the student attending a regular course of instruction, and of those who are compelled to pursue their researches alone, has just been published (through Mr. Van Voorst, of Paternoster-row) by Mr. C. G. Williams, whose abilities as an instructor are well known from the successful manner in which he has filled the offices of principal assistant in the laboratory of the University of Glasgow, and of lecturer on chemistry in the Normal College, Swansea. The object of the work is to enable the student to acquire a clean and careful method of manipulating—a method in which many English chemists are deficient; the result being loss of time, and doubt as to the correctness of their experiments. The want of systematic manipulation causes many good chemists a greatly increased amount of trouble to themselves, while ability in this branch of the science frequently places an ordinary chemist in a more enviable position than many of his more experienced fellow-labourers. With reference to the maintenance of a continuous blast from the blowpipe, and the mode of producing the oxidising and reducing flames at will, his instructions are fully equal to any that have been published, and simple as are these operations when once acquired, their acquisition is to many a by no means easy task. The several descriptions of lamps, furnaces, and other apparatus employed in the laboratory, are fully described, and the study of the treatise would, doubtless, enable many who have had a certain amount of experience to make an analysis more satisfactorily, and at the same time less extravagantly, than at present; and to every student the work will prove an invaluable guide.

The "Pick and Gad."—The second number of this periodical fully maintains the character of the first. The contents include the continuation of the papers on the Drainage of Mines, and on the Mining Districts of Cornwall and South Devon; and a very interesting notice of the Sussex Ironstone. Among the many strange industrial revolutions which have taken place in Great Britain within the last century, from the increased development of our coal fields, and the application of machinery to manufactures, none is more remarkable—although perhaps less known—than the extinction of the iron manufactures of Sussex, which in the 16th and 17th centuries were foremost amongst the English counties producing that metal. The strata containing the beds and the character of the ore are described, and the history and proofs that a really large trade in iron was carried on; the article concludes with some remarks upon the importance of the question to the landowners of the county and the ironmasters. The Weald of Sussex has a large and poor population, and the opening of a field of industry by the re-establishment of the iron trade would be an incalculable benefit to the whole district. Great care appears to have been taken in the editing and arrangement, and, doubtless, the work will speedily secure a good position among our standard periodicals.

Madame Tussaud's Exhibition.—Some highly interesting novelties are in preparation for the Cattle Show: they will consist of Sir Colin Campbell, G.C.B., and Nena Sahib.

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TO RAILWAY COMPANIES, COLLIERY PROPRIETORS, CONTRACTORS, &c.
ANDERTON'S PATENT RAILWAY CHAIRS.

The attention of parties interested in the laying, or keeping in repair, of the permanent road on railways or tramways, is particularly requested to these chairs. They effectually obviate the necessity of boring the rail near joints, or of fishing the ends; they require only one sleeper for support, and form a completely even and level joint. They will be found much lighter than any other chair hitherto used, and will, consequently, be much less expense. It is confidently believed that a trial will prove the value and economical worth of these chairs; which are adapted both for joints and intermediate sleepers, and for any pattern of rails.—Application to be made to Mr. Hewlett, Ince Hall Coal and Cannel Works, near Wigan. 56

ON SALE, BY PRIVATE CONTRACT, a splendid NEW LOCOMOTIVE ENGINE, with cylinders, 14 in. diam. and 20 in. stroke; all wheels coupled, and 4 ft. diam.; boiler, 10 ft. long and 3 ft. 6 in. diam., with 116 brass tubes, each 2 in. diam.; copper firebox, 3 ft. long, 3 ft. 6 in. wide, and 4 ft. 2 in. high; tank to contain 500 gallons of water.—Apply to Wheatley Kirk, engineering auctioneer, valuer, and agent, Cross-street-chambers, Manchester. 57

TO BE SOLD, a HORIZONTAL STEAM ENGINE, 25-horse power; and one of 5-horse power. Also, TWO NEW and well made CYLINDRICAL BOILERS, 22 ft. long, 5 ft. 6 in. diam., proved to 140 lbs. on the inch. Apply to the Goscote Foundry, near Walsall. 58

TO SULPHURIC ACID MAKERS.—WANTED, a MANAGER, fully competent to UNDERTAKE the ENTIRE MANAGEMENT of extensive WORKS for the MANUFACTURE of SULPHURIC ACID from PYRITES. Must have testimonials of entire competency.—Address, free, "T. P.," care of Mr. Everett, 75, Old Broad-street, London, E.C. 59

WANTED TO LEASE, or otherwise, a MINE containing the ORES of NICKEL and COBALT.—Address to Mr. Nichol, *Mining Journal* office, 26, Fleet-street, London. 60

WANTED, a GOOD SECOND-HAND PUMPING ENGINE 36 to 45 in. cylinder.—Apply to W. H. M. Blews, Esq., Birmingham. 61

NICKEL AND COBALT MINES.—WANTED TO PURCHASE, or RENT, MINES of NICKEL and COBALT.—Address, J. H. Williamson, Goldenhill Cobalt, Nickel, Colour, and Chemical Works, Stoke-upon-Trent, Staffordshire. 62

THE GREAT BARRIER LAND, HARBOUR, AND MINING COMPANY (LIMITED).—In 10,000 shares, of £5 each.
Deposit, 10*s.* per share at the time of application, and 20*s.* per share upon allotment.
Prospectuses can be obtained at the office, No. 117, Bishopsgate-street Within, London. J. H. MURCHISON, Sec. 63

TREDINNICK'S LIST OF PRICES OF BRITISH MINES, RAILWAYS, BANKS, &c., published weekly, and forwarded by post at a charge of £1 1*s.* annually. Fluctuations in market value faithfully recorded, with Comments on the progress of Dividend and sound Progressive Mines.
Gresham House, Old Broad-street, London. 64

INVESTMENT.—Messrs. FULLER and CO., 51, THREADNEEDLE STREET, LONDON, continue to TRANSACT BUSINESS in BANKING, MINING, RAILWAY, and OTHER SECURITIES, many of which will safely pay from 15 to 25 per cent. Those of a progressive character frequently rising above 100 per cent.

Since calling public attention to several mines, a rise has taken place of the following:—Craddock Moor, from £35 to £45, equal to £10,550; Calstock Consols, £3¼ to £6¼, or £12,288; East Russell, from 10*s.* to £2, or £6000; Wheal Edward, £4 to £9, being an increase of £20,480; Swanpool, £1 to £4, or £5400: total increase of value in four months, £54,718.

The following shares present equally as good prospects of success, and worth immediate attention:—

| | | |
|---|---|---|
| Dale (Limited). | Lady Bertha. | Peter Tavy Consols. |
| Great Wheal Busy. | Lady Eliza. | South Carn Brea. |
| Drake Walls. | South Lady Bertha. | West Wheal Edward. |
| Tokenbury Consols. | South Bog (Limited). | Whitchurch Down. |

WANTED.—Alfred Consols, Botallack, Dolcoath, Hingston Down, North Roskear, South Caradon, Wheal Margery, Edward, Ludcott, Tehidy. 65

UNITED STATES OF AMERICA.—DUPEE, PERKINS, and SAYLES, BOSTON, MASSACHUSETTS, BROKERS for the PURCHASE and SALE of STATE, CITY, and RAILROAD SECURITIES, MANUFACTURING and BANK SHARES, give particular attention to the MINING COMPANIES OF LAKE SUPERIOR, and furnish reliable information concerning them.
[Dupee, Perkins, and Sayles refer to the Editor of the *Mining Journal*.] 66

## SWANSEA HARBOUR TRUST.

RAILWAY WAGONS, NEW OR SECOND-HAND.

The Trustees are prepared to PURCHASE, or receive TENDERS for BUILDING, THIRTY NARROW GAUGE BALLAST WAGONS, to contain 6 tons each.

Copies of the specification may be had at the Office of the Engineer to the Trust, Harbour Offices, Swansea.

Tenders to be delivered to the undersigned, on or before Monday, the 14th day of December next, and to whom full particulars as to second-hand wagons may be sent.

Harbour Offices, Swansea, Nov. 19, 1857. LEWIS THOMAS, Clerk. 67

## EAST INDIAN IRON COMPANY.

Incorporated by Royal Charter.

FIFTH CALL.—Notice is hereby given, that, in pursuance of a resolution of the Court of Directors, the proprietors of Class A, or Preference Shares, in the East Indian Iron Company are required to PAY a CALL of TEN SHILLINGS per share on each of their respective shares, on or before the 19th day of December next, at the banking-house of Messrs. Smith, Payne, and Smiths, 1, Lombard-street, in the City of London.

And notice is hereby further given, that interest at the rate of £5 per cent. per annum will be charged upon all calls remaining unpaid after the day above-mentioned; and that if default is made in payment of this call for one calendar month after the 19th day of December next, the shares in respect of which default is made will become liable to forfeiture, under the company's Deed of Settlement.

By order, E. J. BURGESS, Sec.

8, Austinfriars, London, E.C., Nov. 26, 1857. 68

## SCINDE RAILWAY COMPANY.—INDUS STEAM FLOTILLA.

Capital £250,000, in 12,500 shares of £20 each.—Deposit £1 per share.

OFFICES,—GRESHAM HOUSE, OLD BROAD STREET.

The Scinde Railway Company, incorporated 1857, for constructing Railways in Scinde and the Punjaub, and for establishing the Indus Steam Flotilla in connection with such railways.

The Hon. East India Company have guaranteed 5 per cent. per annum as a minimum rate of interest upon the capital, on the same terms as those granted to the railway, this being the only guarantee of interest given by the Hon. Company for the establishment of steam navigation on any of the Indian rivers.

W. P. ANDREW, Esq., 26, Montague-square—CHAIRMAN.
Sir JAMES C. MELVILL, K.C.B.—EX-OFFICIO DIRECTOR.
Sir HERBERT MADDOCK, late Deputy-Governor of Bengal.
J. EDMUND ANDERDON, Esq., Director of the Bank of London.
HARRY BORRADAILE, Esq., late Bombay Civil Service.
THOMAS WILLIAMS, Esq., St. John's Wood, Regent's-park.

AUDITORS.

Alexander Mackenzie, Esq., Director of the Oriental Bank Corporation.
Major John A. Moore, F.R.S., Director of the National Provincial Bank of England.

CONSULTING ENGINEER—T. A. Yarrow, Esq.
BANKERS—Messrs. Smith, Payne, and Smiths.
SOLICITORS—Messrs. Marten, Thomas, and Hollams.
SECRETARY—Thomas Burnell, Esq.

The commercial prospects of this important undertaking, and the official grant of a guaranteed rate of interest on the capital by the Hon. East India Company, will be seen in the following extracts from official correspondence:—

From W. P. ANDREW, Esq., to Sir JAMES C. MELVILL, K.C.B., &c. (Extract.)

The distance proposed to be traversed by the steamers—that is, from Hydrabad, the upper terminus of the Scinde Railway, to Mooltan, the lower terminus of the Punjaub Railway,—is 570 miles.

Providing five steamers for three successive years, the prospective expenditure would be as follows, viz.:—

| | | |
|---|---|---|
| 1st year.—Five steamers, with ten supplemental barges ..... | £72,000 | |
| Workshops, machinery, and river stations ..... | 20,000= | £ 92,000 |
| 2d year.—Five steamers, with ten supplemental barges ..... | | 72,000 |
| 3d year.—Five steamers, with ten supplemental barges ..... | | 72,000 |
| Contingencies..... | | 14,000 |
| Entire capital for 15 steamers, with 30 supplemental barges, and necessary appliances..... | | £250,000 |

The return of 20 per cent. (mentioned in the report of the consulting engineer) may appear large; but the communications I have had on this subject with Mr. Frere, the Commissioner in Scinde; Major Hamilton, the Commissioner at Mooltan; Colonel Napier, Chief Engineer of the Punjaub; Mr. Temple, late Secretary to the Chief Commissioner of the Punjaub; and other local authorities, lead me to conclude that the pecuniary result cannot but be of a highly favourable character.

Signed, W. P. ANDREW.

From Sir JAMES C. MELVILL, K.C.B., to W. P. ANDREW, Esq., Chairman of the Scinde Railway Company, &c. (EXTRACT.)

SIR,—I am commanded to acquaint you that the Court of Directors of the East India Company, having considered the proposition submitted by the directors of the Scinde Railway for the navigation of the Indus between Kotree (port of Hydrabad), the terminus of the Scinde Railway, and Mooltan, the terminus of the proposed Punjaub Railway, have resolved to allow the Scinde Railway Company to issue shares, representing a capital of two hundred and fifty thousand pounds (£250,000), for that purpose, an agreement being entered into with the company and the East India Company, upon the same terms as those which are included in the railway contract.

W. P. Andrew, Esq., &c. Signed, JAMES C. MELVILL.

The effect of the contract above alluded to is, that the East India Company, besides guaranteeing a minimum rate of interest on the capital of 5 per cent. per annum for 99 years, agree to divide equally all nett profits exceeding the guaranteed rate of interest, until all advances for interest shall have been repaid, when the entire surplus profits go to the shareholders.

In the allotment of shares in the Indus Steam Flotilla a preference will be given to shareholders in the Scinde Railway Company.

All applications must be addressed to the directors on or before Dec. 5, 1857.

FORM OF APPLICATION FOR SHARES.

To the Directors of the Scinde Railway Company.

I request you will allow me ..... shares of £20 in the capital of the Indus Steam Flotilla; and I hereby engage to accept the same, or any less number, and to pay the amount thereof, as and when required by the directors, and subject to their rules and regulations.

Name in full.....
Occupation .....
Address .....
Date ..... Number of shares, if any, in Scinde Railway Co. .....

## ASSAY OFFICE AND LABORATORIES,

DUNNING'S ALLEY, BISHOPSGATE STREET WITHOUT, LONDON.

Conducted by JOHN MITCHELL, F.C.S., Author of "Manual of Practical Assaying," Metallurgical Papers, &c.

Assays and Analyses of every description performed as usual. Special Instruction in Assaying and Analysis. Consultations in every branch of Metallurgical and Manufacturing Chemistry. Assistance rendered to intending Patentees, &c.

For amount of fees, apply to the office, as above.

INVESTMENTS IN BRITISH MINES.

Full particulars of the most important Dividend and Progressive Mines will be found in the Fourth Edition of

## BRITISH MINES CONSIDERED AS AN INVESTMENT,

Recently published, by J. H. MURCHISON, Esq., F.G.S., F.S.S.

Pp. 356; price 3s. 6d., by post 4s.

Mr. MURCHISON also publishes a QUARTERLY REVIEW OF BRITISH MINING, giving, at the same time, the Position and Prospects of the Mines at the end of each Quarter, the Dividends Paid, &c. The REVIEW for the Quarter ending the 30th of June, contains a Map of the Great Wheal Vor and Leiant Mining Districts, price 1s. Reliable information and advice will at any time be given by Mr. MURCHISON, either personally or by letter, at his offices, 117, Bishopsgate-street Within, London, where copies of the above publications can be obtained.

OPINIONS OF THE PRESS.

Mr. Murchison's new work on British Mines is attracting a great deal of attention, and is considered a very useful publication, and calculated to considerably improve the position of home mine investments.—Mining Journal.

The book will be found extremely valuable.—Observer.

A valuable little book.—Globe.

A valuable guide to investors.—Herapath

Mr. Murchison takes sound views upon the important subject of his book, and has placed, for a small sum, within the reach of all persons contemplating making investments in mining shares that information which should prevent rash speculation and unproductive outlay of capital in mines.—Morning Herald.

Of special interest to persons having capital employed, or who may be desirous of investing in mines.—Morning Chronicle.

Of great value to capitalists.—Sunderland Times.

Parties requiring information on mining investments will find no better and safer instructor than Mr. Murchison.—Leeds Times.

As a guide for the investment of capital in mining operations is inestimable. One of the most valuable mining publications which has come under our notice, and contains more information than any other on the subject of which it treats.—Derby Telegraph.

To those who wish to invest capital in British mines, this work is of the first importance.—Welshman.

This work enables the capitalist to invest on sound principles; it is, in truth, an excellent guide.—Plymouth Journal.

All who have invested, or intend to invest, in mines, will do well to consult this very useful work.—Ipswich Express.

This is really a practical work for the capitalist.—Stockport Advertiser.

Persons desirous to invest their capital in mining speculations, will find this work a very useful guide.—Warwick Advertiser.

It is full of carefully compiled and reliable information relative to all the known mines in the United Kingdom.—Sheffield Free Press.

Those interested in mining affairs, or who are desirous of becoming speculators, should obtain and carefully peruse the work.—Monmouth Beacon.

Every person connected, or who thinks of connecting himself with mining speculations, should possess himself of this book.—North Wales Chronicle.

A very valuable book.—Cornwall Gazette. [Glasgow Examiner.

All who have invested, or intend to invest, in mines, should peruse this able work.

We believe a more useful publication, or one more to be depended on, cannot be found.—Plymouth Herald.

With such a work in print, it would be gross neglect in an investor not to consult it before laying out his capital.—Poole Herald.

Mr. Murchison will be a safe and trustworthy guide, so far as British mines are concerned.—Bath Express. 71

## THE PRACTICAL MECHANICS' JOURNAL.

No. 117, December, 1857. 4to., price, sewed, One Shilling.

CONTENTS.—Mining Operations in the Isle of Man, Joy's Duplex Cylinder Expansion Steam-Engine, South Kensington Museum, Double Action Twin Pump, Morrison's Boilers, Mechanical Notes from America, Johnson's Locomotive Furnaces and Boilers, Cassels' and Morton's Refining Iron, Thomson's Reaping Machines, Tindall's Harpoon Guns, Adam's Polishing Thread, Thomson's Gas Stoves, Anderson's Maize Starch, Henley's Chimney Top, New French Patent Law, Air-Syphon Ventilation, English and Continental Roads, with Law Reports of Patent Cases, Lists of New Patents and Designs, a Plate, and about Fifty Woodcuts.

Longman and Co., Paternoster-row; Editor's Offices (Offices for Patents), No. 47, Lincoln's Inn-fields. 72

## Stannaries of Cornwall.

IT APPEARING TO ME, on Auditing the Account of the Registrar of the Court of the Vice-Warden of the STANNARIES OF CORNWALL, that there remains a general balance in his hands sufficient to meet all payments authorised to be made thereout, for the half-year next ensuing the 29th day of September last,

I hereby give notice thereof, and that during such half-year NO ASSESSMENT WILL BE MADE, or become payable, in respect of the One Farthing in the Pound sterling on the value of all Metals and Metallic Minerals, by virtue of the provisions contained in the several Statutes in that behalf.

I also give notice, that the Managers of every Mine within the said Stannaries are nevertheless required to make their usual returns to the said Registrar as if such assessments were still payable. EDWARD SMIRKE, V.W.

Truro, Nov. 19, 1857. 73

LECTURES ON CHEMISTRY APPLIED TO MINING, METALLURGY, AND THE DISCRIMINATION OF MINERALS.

Mr. R. V. TUSON, F.C.S., F.S.A. (late Demonstrator of Chemistry at St. Bartholomew's Hospital), will COMMENCE a COURSE of TWENTY LECTURES on the above subject at CROSBY HALL, Bishopsgate-street, the FIRST WEEK in DECEMBER. Fee, £2 2s.—For full particulars, apply to Mr. TUSON, at his Laboratory, Oxford-court, Cannon-street, E.C. 74

COLLIERY MANAGER.—A YOUNG MAN, who served his pupilage with an eminent viewer in the North of England, is desirous of meeting with an ENGAGEMENT as MANAGER of a COLLIERY or COLLIERIES. No objection to go abroad. Satisfactory testimonials as to character and ability can be given.—Letters addressed "Miner," Mr. Wm. Younger's, 9, Railway-terrace, Derby, will have prompt attention. 75

STAVELEY COLLIERIES, IN THE COUNTY OF DERBY.—A PERSON fully qualified to TAKE the DUTIES of RESIDENT VIEWER is WANTED at these collieries. He must possess a thorough practical knowledge of mining engineering, and of colliery machinery; and his whole time and attention must be exclusively directed to these works. Unexceptionable testimonials as to character and abilities will be required.—Application may be made to Mr. HEATON, Staveley Works, near Chesterfield; or to Messrs. WOODHOUSE and JEFFCOCK, civil and mining engineers, Midland-road, Derby.—Nov. 20, 1857. 76

WANTED, a SITUATION as ENGINEER by a SINGLE MAN (Age 32), who can make drawings. Has returned about 12 months from superintending and erecting all the plant of machinery (except one engine) at the Linares and La Fortuna Mines, Spain (for three years). If not sufficient work for an engineer, he would enter partly on the duties of an agent, underground or surface. No objection to go abroad. Good references can be given.—Address, "J. D.," J. J. Gummoe, Esq., St. Austell, Cornwall.—Dated Nov. 26, 1857. 77

WANTED, a PARTNER, or otherwise, with £500, to ASSIST in CARRYING OUT the WORKS of a MINERAL in great demand, and which will pay more than 100 per cent. per annum.—For further particulars, address by letter, to "R. A.," *Mining Journal* office, 26, Fleet-street, London. 78

TO LANDOWNERS.—A GENTLEMAN, who for many years has been extensively employed in the West of England as a land, railway, and mineral surveyor, and who can be well recommended for his ability to execute plans and sections of all kinds neatly and accurately, is OPEN to an ENGAGEMENT, either as SURVEYOR or LAND STEWARD. No objection to go abroad.—Address, "P. Q.," *Mining Journal* office, 26, Fleet-street, London. 79

TO PARENTS AND GUARDIANS.—A GENTLEMAN, well acquainted with the general business of the City, OFFERS to TAKE a YOUNG GENTLEMAN into his HOUSE, to provide him with board and lodging, and assist him with influence and instruction. He will have the benefit of an extensive library, and the comforts of a quiet home.—Apply by letter, prepaid, to "P. O.," *Mining Journal* office, 26, Fleet-street, London. 80

TO IRONMASTERS AND OTHERS.—WANTED, by a thoroughly practical man, a SITUATION as FURNACE, MILL, or GENERAL MANAGER at an IRONWORKS. The advertiser has been 18 years engaged as builder and manager of furnaces, iron and tin-plate works, and can give best references, and produce good testimonials.—Address, "I. P.," care of W. J. Player, Esq., Neath, S. Wales. 81

TO CONTRACTORS, BUILDERS, AND STONE MERCHANTS.—The PROPRIETORS of some very extensive QUARRIES of FIRST-CLASS BUILDING STONE (SANDSTONE) are prepared to CONTRACT to SUPPLY several thousand tons in BLOCK, ROUGH or DRESSED.—For full particulars, apply by letter, to "C. E.," Mr. C. H. May's General Advertisement Office, 26, Lombard-street, London. 82

TO IRONMASTERS, ENGINEERS, AND FOUNDERS.—The HARRINGTON IRON COMPANY are now PREPARED to SUPPLY MELTING and FORGE PIG-IRON, made from the rich HEMATITE IRON ORES of CUMBERLAND.—Address, HARRINGTON IRON COMPANY, Cumberland. 83

DISINFECTING AND DEODORIZING FERTILIZERS.—A PATENT (1857) TO BE DISPOSED OF for the above PROFITABLE PRODUCTS, by a CHEMICAL PROFESSOR.—Apply to GREGORY, FAULKNER, and Co., 1, Bedford-row; Mr. WM. SPENCE, 50, Chancery-lane; or Mr. RICH. MIDDLETON, *Mining Journal* office, 26, Fleet-street, London. 84

ANY QUANTITY OF IRON ORE FOR SALE, from PRAWLE MINE, yielding, by assay, 50 per cent. of pure iron.—For samples, &c., apply to the secretary, Mr F. NEVILL, 4, Westwell-street, Plymouth. 85

TO BE SOLD, a decided bargain, a 64 in. PUMPING ENGINE, in first-rate condition, without boiler. May be seen at Langford Mine, near Callington.—Application to be made to Mr. HENRY WILLS, auctioneer, Plymouth. 86

FOR SALE, at EAST BOSCEAN MINE, ST. JUST, an excellent 30 in. cylinder ENGINE, with boiler, &c., complete.—For particulars and price, apply to Messrs. SAML. HIGGS and SON, Penzance.—Nov. 23, 1857. 87

FOR SALE, BY PRIVATE CONTRACT, an UPRIGHT BALK and DEAL SAW FRAMES, with SAWS, and all the requisite machinery in connection therewith. Also, a CIRCULAR SAW and TABLE, &c.

The whole is little worse than new, and may be seen on application to R. WIGHT and SON, Sunderland Foundry.—Sunderland, Nov. 19, 1857. 88

PUMPING AND WINDING ENGINES.—FOR SALE, an excellent 50 in. PUMPING ENGINE, 10 ft. stroke, two boilers 10 tons each, in perfect condition, nearly new, with fire-proof house. A 24 in. WHIM HORIZONTAL ENGINE, with 10 tons boiler, nearly new, in excellent condition, and drawing machine attached.

As these engines are very superior in make and condition, parties requiring engines will do well to examine them.—Apply to Mr. C. WESCOMB, 21, Southernhay, Exeter. 89

BRIDGE RAILS.—600 tons BRIDGE RAILS, 56 lbs. per yard, TO BE SOLD, or LET ON HIRE.—Apply to Messrs. FULLER and HORSEY, Billiter-street, E.C. 90

MINERAL DISCOVERY.—TO LET, a LARGE DEPOSIT of SPATHOSE, HEMATITE, and OXIDES, and a COPPER DEPOSIT of PURPLE, GREEN, and YELLOW CARBONATE, and NICKEL, all laid open by mountain torrents, easy of access, and all down hill. Freights to Glasgow, 2s. 6d. per ton. Only four hours' sail to Greenock, by daily steamers.—Apply to the proprietor, W. FORLONG, Esq., of Erins, near Tarbert, Loch Fyne, Argyleshire. 91

TO BE DISPOSED OF, in a large Midland town, the BUSINESS of an ENGINEER and IRONFOUNDER, in full and profitable work, and with a rapidly increasing connection; the proprietor wishing to relinquish it solely on account of his health.—Particulars can be ascertained on personal application of principals, or their solicitors, to Mr. WALTER MAY, 3, Great George-street, Westminster; or to Messrs. COLMORE and BEALE, solicitors, Birmingham. 92

TO BE LET, EXTENSIVE ROYALTIES OF COAL, amounting to 1000 acres, to which more may be added, if requested, in the township of Fishburn, county Durham, the seams of which have been bored to. They are known to be applicable to steam-boat, manufacturing, and coking purposes.—For particulars, plans, &c., apply to Mr. THOS. E. FORSTER, 7, Ellison-place, Newcastle; or to Mr. E. F. BOYD, Urpeth, Chester-le-street.—Oct. 8, 1857. 93

VALUABLE ANTHRACITE COAL.—TO BE LET, under the farms called Lladrog Mawr, Lladrog Fach, Ty Canol, Branwithaw, Ceidrim, and Wern, the following valuable SEAMS OF COAL, or some of them may be worked under these properties:—The Wain Fynnon, the Drap, Graigog, Green, Big Seam, Yard, and Two Feet Seam, varying from 2 to 9 ft. thick. The situation of these farms with reference to the Gwendraeth Canal and the South Wales Railway, afford an easy communication to the ports of Pembrey and Kidwelly, as well as to the interior of England.—For further particulars, apply to Messrs. WHITE, BROUGHTON, and WHITE, solicitors, 12, Great Marlborough-street, W., London; Mr. GEORGE GOODE, Carmarthen; Mr. W. P. STRUVE, C.E., Swansea. 94

VALUABLE COLLIERIES AND COLLIERY PLANT, AT WATNALL AND GREASLEY, NOTTINGHAMSHIRE, FOR SALE BY TENDER.—TO BE SOLD, BY TENDER, by order of the Assignees, under a Deed of Assignment, the UNEXPIRED TERMS of YEARS in ALL those COLLIERIES, situate at Watnall and Greasley, in the county of Nottingham, lately worked by Mr. Jas. Morley, with the STEAM-ENGINES, RAILS, IMPLEMENTS, MACHINERY, GEARING, and PLANT therein and thereon, including a PRIVATE RAILROAD to the Nottingham Canal; inventories of which may be inspected at the collieries, and at the office of Mr. HUNT, solicitor, Weekday Cross, Nottingham.

Approved security will be taken for payment of the purchase-money by instalments.

The Assignees do not bind themselves to accept the highest, or any tender; and the accepted offer (if any) will, as to one of the collieries, be subject to the approval of the lessor thereof.

Sealed tenders, specifying the amount to be given, time of payment, and proposed security, to be delivered at the office of Mr. HUNT, on or before Wednesday, the 9th day of December, 1857.

The terms of the leases and contracts under which the collieries are held may be known, and any further particulars obtained, on application at the offices of Mr. HUNT, of Messrs. W. and R. ENFIELD, solicitors, Nottingham; or of Mr. F. BAKER, solicitor, Corn Market, Derby. 95

THE PORT PHILLIP AND COLONIAL GOLD MINING COMPANY.—SHAREHOLDERS only are informed that a LITHOGRAPHED COPY of Mr. C. RICHARDSON'S RECENT LETTER to the SECRETARY of the BOARD OF TRADE, with reference to the above company, and to its registered promoters, Mr. H. W. Schneider, M.P., and Mr. J. D. Powles, MAY BE HAD, post free, from the writer, upon a WRITTEN application, enclosing name and address, and 13 postage stamps.—15, Charles-street, St. James's, Nov. 23, 1857. 96

GRAND MASONIC HALL, CORNWALL STREET, PLYMOUTH.

UNPRECEDENTED SALE OF NEARLY £2000 WORTH OF PHILOSOPHICAL APPARATUS.

MESSRS. SKARDON AND SONS are instructed by Mr. J. H. Hearder, who is about to decline the profession of Lecturer on Experimental Philosophy, to announce to amateurs and patrons of science, and the public generally, that they will SELL, BY AUCTION, at the Grand Masonic Hall, Cornwall-street, Plymouth, on Tuesday and Wednesday, the 1st and 2d of December, 1857, the most EXTENSIVE and SUPERB COLLECTION of PHILOSOPHICAL APPARATUS ever offered for public competition.

The principal portions are compactly fitted into travelling chests, and are in complete and independent sets, arranged expressly for illustrating extensive courses of lectures, on the following subjects, on a very magnificent scale:—viz., Electricity, Electro-Magnetism, Magnetism, Galvanism and the Electric Light, Pneumatics, Electric Telegraph, Combustion, Water, Oxy-hydrogen Lanterns and Dissolving Views, Chemistry in general.

Among the APPARATUS will be found splendid Electrical Machines, some of which are very powerful; Voltaic Batteries, Powerful Magnets, Electro-Magnetic Motive Machines, Splendid Electric Light Apparatus, Air-Pump, a Magnificent Pair of Oxy-hydrogen Lanterns for Dissolving Views, by Horne and Thornthwaite; beautiful Model of a Frigate, Photographic Camera and Stand, &c.

The whole may be viewed the Monday previous to the day of sale, between the hours of Twelve and Four, when descriptive catalogues will be ready for delivery, at Sixpence each, and the proprietor will attend to afford any information that may be required. Sale to commence each day at Eleven o'clock.

Globe Fire and Life Insurance Office, 11, Bedford-street, Plymouth, Nov. 2, 1857. 97

SILVER BROOK LEAD MINE, IN THE PARISH OF ILSINGTON, DEVON.

VALUABLE MACHINERY AND MATERIALS FOR SALE.

MESSRS. WARE AND SON WILL SELL, BY AUCTION, on Thursday, the 10th December next, at Eleven o'clock in the forenoon, the WHOLE of the MACHINERY and WORKING PLANT on the above MINE, comprising a 20 in. cylinder PUMPING ENGINE, 6 ft. stroke, equal beam, and bobs; about 11 tons, with balance-bob and connections; also, a 10 in. cylinder whim engine, with multiplying gear, fly-wheel 2 tons, with winding cage, &c., complete; 1 large crusher, in excellent order, rolls 22 in. diameter; about 80 fms. pumps, varying from 7 in. to 9 in., with windbores, doorpieces, and working-barrels; 49 fms. 7 in. wood rods, with strapping-plates; about 70 fms. of 1¼ in. and 1⅛ in. iron rods; 80 fms. 9 16 in. winch-chain; 300 fms. 9-16 in. whim-chain; 60 fms. ⅝ in. whim-chain; 200 fms. railroad iron; horse-whim, 10 ft. cage; 3 iron tram wagons; crab winch and shears; a 7 ft. water-wheel and circular iron buddle; smiths' tools; beam, scales and weights; new and old timber, sieves, barrows, dressing sheds, launders, flooring, joiners' tools, an excellent dial, large bell, account-house furniture, &c.

The auctioneers beg respectfully to invite punctual attendance, as they purpose selling the whole in one day; and also intimate to their friends that the above mine is situate about six miles (excellent road) from the Quay at Newton Bushel, where vessels can load. Catalogues ready one week prior to the sale.

Refreshments will be provided.

Paris-street, Exeter, Nov. 23, 1857. 98

IN CHANCERY.

TO CAPITALISTS, COAL PROPRIETORS, AND OTHERS.

IMPORTANT SALE OF VALUABLE LEASES OF COAL MINES, KNOWN AS THE PENDLETON COLLIERY.

Situate within 2½ miles of the Manchester Royal Exchange, county of Lancaster.

MR. WILLIAM GRUNDY WILL SELL, at the Albion Hotel, Manchester, on Tuesday, the 15th day of December, 1857, at Four o'clock in the afternoon, pursuant to a Decree of the High Court of Chancery, made in the Cause of KERRICH v. FITZGERALD AND OTHERS, dated the 5th day of August, 1850, with the approbation of the Hon. Sir GEORGE ROSE, one of the Masters of the said Court, in One Lot.

The property to be offered comprises the IMPROVED RENTS and ROYALTIES of and in the several MINES, known as the FITZGERALD, the DUCHY, and the BLOMELEY MINES.

The FITZGERALD MINES consist of all the mines and veins of coal under 606A. 1R. 32P. of land of the statute measure, and are held for the remainder of a term of 61 years, commencing on the 3d day of January, 1840, at royalties varying from £25 to £70 per statute acre.

The DUCHY MINES consist of four mines, or seams of coal, under 36A. 1R. 18P. of land of the statute measure, held for the remainder of a term of 31 years, commencing on the 25th day of March, 1852, at royalties varying from £25 to £70 per statute acre.

The BLOMELEY MINES consist of the same four seams, or veins of coal, under 9A. 3R. 32P. of land of the Cheshire large measure, and are held for the remainder of a term of 50 years, commencing on the 29th day of September, 1851, at royalties varying from £25 to £30 per Cheshire acre.

The lessee has rights of way over the Fitzgerald estate into Broughton, for the passage of coal, free of toll.

The MINES forming the said colliery will be sold subject to an under-lease to Messrs. Andrew Knowles and Sons, at a minimum rent of £1436, and at improved royalties, varying from £70 to £120 per statute acre, and subject to the payment of all surface rents. The under-lessees also pay a way-leave rent of £10 per foot per Cheshire acre on all coal brought through these collieries from adjoining mines.

The capabilities and excellent working condition of the Pendleton Colliery; the exemption from toll into Broughton and Manchester, and the close approximation thereto, the colliery being only 2½ miles from the Manchester Royal Exchange; under this one of the most desirable properties of this description in the county.

Plans and full descriptive particulars are being prepared, and may be had, gratis, in London, of Messrs. WHITE and BORRETT, solicitors, 10, Whitehall-place; and Messrs. COOPER and HODGSON, solicitors, 3, Verulam-buildings, Gray's Inn; and in Manchester, of HUGH HIGSON, Esq., Broughton, near Manchester; at the principal hotels in Manchester and Liverpool; or from Mr. GRUNDY, the auctioneer, 86, King-street, Manchester. 99

TO ENGINEERS, SEWAGE AND LAND DRAINING CONTRACTORS, PLANT DEALERS, AND OTHERS.

MESSRS. PULLEN AND SON are directed to SELL, BY TENDER, in One or more Lots, a CAPITAL NEARLY NEW OSCILLATING STEAM-ENGINE, of 16-horse power, with metallic piston and slide valve, governors, &c., complete, fixed on stout iron bed plate, large fly-wheel cog, mortise, and rigger wheels, shafting, steam pipes, &c., two wrought-iron tubular steam boilers, and a Cornish steam boiler, with gauges, valves, furnace work, &c.; THREE POWERFUL CENTRIFUGAL PUMPS (Bessemer's Patent), capable of pumping 1000 gallons, or 4½ tons, of water per minute, and suitable for sewage or land draining purposes, &c.; an AIR DISC, 7 ft. diameter, with inlets, equal to 25 ft. area, making 300 revolutions per minute; the whole in capital working order, and capable of removal by land or water.—May be viewed with orders, which, with further particulars, may be obtained of Messrs. PULLEN and SON, 80, Fore-street, Cripplegate. 100

SOUTH WALES.—Mr. ARTHUR O. DAVIES, of Dowlais, is authorised to TREAT for the SALE of TWO VERY VALUABLE GOING COLLIERIES in South Wales.

Also, TO LET, an EXTENSIVE TRACT of STEAM COAL, on a long lease, at a moderate royalty, with a railway running through the property.

For terms, apply as above. 101

TO BE DISPOSED OF, a COPPER MINE at TORTENIA (ISLAND OF SARDINIA). In consequence of the death of one of the chief partners of the Mineralogical Society of Tortenia, established under Decree of H. M. the King of Sardinia, dated 3d of February, 1852, and holding grant of the mine by Royal Decree, dated 13th of September, 1854, the Board of Management has been authorised to SELL the said COPPER MINE, which has been worked for several years, and is well known in Liverpool, where the ores have realised good prices.

There are several lots of ore at the surface, ready for sampling; and the veins which intersect the sett have been opened out by cross-cuts and levels, from which the ore already sold, and all that ready for sampling, has been got, proving the existence of a very important deposit of copper, which may be more fully ascertained by personal inspection.—For further particulars, and conditions of sale of the said mines, and for permission to inspect the same, apply, in Genoa, to the Administration of Mines of Tortenia, 76, Rue Portavecchia, vis-à-vis au deuxième palais de M. le Marquis César Durazzo, 4, Cauti San Francisco. 102

WEST SORTRIDGE CONSOLS.—FOR SALE, BY PRIVATE CONTRACT, the above MINE, in the parish of Whitchurch, Devon, together with ALL the MACHINERY and MATERIALS thereon, comprising a WATER-WHEEL, 15 ft. in diameter and 7 ft. breast; first-class 8-headed stamps; balance-bob; travelling-bob; shaft-bob; line of flat-rods (about 35 fms.) of ¼ in. crown iron, with pulleys, complete; piece of 6 in. main rod; 200 fms. tram iron, 2½ by ⅝; 35 fathoms whim-rope; 14 fms. ⅝ chain; 2 whim-kibbles; 7 spare stamps' lifters; wood floors, &c.; about 7 or 8 cwts. of cast-steel borers; about 2½ cwts. of powder; and sundry other articles, for which see catalogues.

The above mine adjoins the celebrated Sortridge Consols Mine on the west, the discovery just made in the 40 west at which is looked upon as affecting most favourably the West Sortridge sett, and adjoins Wheal Franco, which has also made good returns, and is in the immediate neighbourhood of North Wheal Robert, now making large returns.

The present adventurers have expended a considerable sum in laying open the lodes, and several hundred pounds worth of tin ore have been sold, but number of the shareholders not paying their calls obliges the company to offer this promising mine with the machine, &c. Many of the present shareholders have been desirous of joining a new company, as they believe that with a small additional expenditure important discoveries will be made.

Every information, orders to inspect, and catalogues, may be obtained of J. H. MURCHISON, Esq., 117, Bishopsgate-street-within, London. 103

GUARANTEED PATENTS.—The present practice of granting patents for inventions without examination or discrimination renders their validity and consequent value doubtful and uncertain; and, as the number of applications for patents annually increases, the risk of collision and of anticipation becomes greater. To remedy these evils, the UNDERSIGNED are prepared to GUARANTEE BY BOND the NOVELTY and VALIDITY OF PATENTS PROCURED and SPECIFIED BY THEM, on terms which may be known on application.

BARLOW AND CO., Patent Office, 89, Chancery-lane, London. 104

NEW PATENT ACT, 1852.—Mr. CAMPIN, having advocated Patent Law Reform before the Government and Legislature, and in the pages of the *Mining Journal*, &c., is now READY to ADVISE and ASSIST INVENTORS in OBTAINING PATENTS, &c., under the NEW ACT.

The Circular of Information, gratis, on application to the Patent Office and Designs' Registry, 166, Strand. 105

DO YOU LOCK UP YOUR CASH AND BOOKS?

If not, lose no time in getting one of GRIFFITHS' SECOND-HAND FIRE and THIEF-PROOF SAFES, for bankers, shippers, merchants, or public companies, by the most eminent makers, at half the cost of new. WROUGHT-IRON DOORS for strong rooms and party walls. Price of safes, 24 in. height, 18 in. width, and 16 in. depth, £3 10s. All safes from this establishment warranted to be fire-resisting, sound, perfect, and quite equal to new.

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N.B. Fire-proof Safes, Iron Doors, or Office Furniture bought.

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No charge for patent right unless successful.
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**POTTERY KILN SMOKE PREVENTION.**
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**LAND FURNACE SMOKE PREVENTION.**
BY MR. LEE STEVENS.
No charge for patent right unless successful.
1, FISH STREET HILL, CITY, LONDON, E.C. 110

**OVERLAND ROUTE.—STEAM TO INDIA AND CHINA, &c.,** VIA EGYPT.—The PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY BOOK PASSENGERS and RECEIVE GOODS and PARCELS for the MEDITERRANEAN, EGYPT, ADEN, BOMBAY, CEYLON, MADRAS, CALCUTTA, the STRAITS, and CHINA, by their steamers leaving Southampton on the 4th and 20th of every month.
For further particulars, apply at the company's offices, No. 122, Leadenhall-street, London; and Oriental-place, Southampton. 111

**MINE AGENTS AND SURVEYORS** may be SUPPLIED with PAPER PROTRACTORS, which, by being pasted on the sheets intended for plans, will enable them to plot the dialling without the trouble of using any other instrument except a parallel ruler and scale. In large sheets, two or more copies should be put on; price 1s. per copy. A copy will be forwarded, post free, on the receipt of 13 postage stamps, by BARNTON SYMONS, surveyor and lithographer, Quay, Truro. 92

**STEAM PUMPS, FOR LAND AND MARINE PURPOSES,** SINGLE or DOUBLE ACTING; sizes from 2½ to 12 in. diameter, and from 4 to 18 in. stroke; by JOHN CAMERON. Used for feeding boilers, raising water (for reservoirs, tanks, irrigation, &c.), turning power, or as a steam fire engine.
Works, Egerton-street, Hulme, Manchester. 113

**THOS. GEMMELL AND CO., WIRE ROPE MANUFACTURERS,** WORKS, FIRHILL ROAD, SPRINGBANK, GLASGOW.
WAREHOUSES—Finnieston Quay, Glasgow; 10, King-street, Liverpool; 43, Marischal-street, Aberdeen; 46, Osborn-street, Hull.
AGENTS.
HENRY J. MORTON and Co., 2, Basinghall-buildings, Leeds.
GEORGE OUTRIM, Liverpool-road, Stoke-upon-Trent.
ISAAC NAYLER, Dibdale, near Dudley.
J. WADDINGTON, 109, Millgate, Wigan.
THOMAS REID, 33, Quayside, Newcastle-upon-Tyne. 114

**PATENT WIRE ROPES, ONE-HALF THE COST OF HEMP ROPES.**
HENRY J. MORTON AND CO.'S (2, BASINGHALL BUILDINGS, LEEDS) PATENT WIRE ROPES, for the use of MINES, COLLIERIES, RAILWAYS, &c.; one-half the weight of hemp rope, and one-third the cost; one-third the weight of chains, and one-half the cost—in all deep mines these advantages are self-evident.
References to most of the principal colliery owners in the kingdom.
GALVANISED SIGNAL CORDS AND KNOCKER LINES; will not rust or corrode, and not affected by the copper water in mines. Very strong, and not at all liable to break. Prices from 15s. per 100 yards.
PATENT ASPHALTED ROOFING FELTS, 1d. per foot.
DRY HAIR BOILER FELTS, saving 25 per cent. of fuel.
PATENT BOILER COMPOUND, for bad water.
FAIRBANK'S WEIGHING MACHINES, of all sizes.
GALVANISED IRON ROOFING AND SPOUTING.
PATENT FLEXIBLE STEAM PACKING, 1s. 3d. per lb.
PATENT METALLIC PACKING, 4s. per lb. [than leather.
PATENT AMERICAN DRIVING BANDS, much cheaper and more durable
FLAX HOSE PIPES, for water, &c., one-fourth the price of leather hose.
PATENT GALVANISED AIR-PIPES, for ventilation.
STOCK of MINING and RAILWAY STORES in Liverpool and London:—viz OILS, GREASES, COTTON WASTE, SPUN YARN, WHITE LEAD, VARNISHES &c.; and at very low prices.—Address, 2, Basinghall-buildings, Leeds.
N.B. Illustrated price list on application. 115

**MOST IMPORTANT TO COLLIERY OWNERS AND COLLIERY MANAGERS.**
HENRY J. MORTON AND CO.,
GALVANISED IRONWORKS, 2, BASINGHALL BUILDINGS, LEEDS,
beg to call attention to their
IMPROVED SIGNAL BELLS,
especially prepared to meet the requirements of the new Act for the Inspection of Coal Mines. It has met with the decided approval of many large colliery owners and managers. SIMPLE, EFFICIENT, and CHEAP. Price 15s., 17s. 6d., and 20s. each.
BYRAM'S PATENT ANEMOMETER, for testing the ventilation.
Price £3 3s. to £4 4s. each.
STEAM PRESSURE GAUGES, very strong and accurate, £2 and £2 12s. 6d. each.
For further information, apply to
H. J. MORTON AND CO., 2, Basinghall-buildings, Leeds. 116

**FAIRBANK'S IMPROVED PATENT WEIGHING MACHINES,** for the use of IRONWORKS, COLLIERIES, RAILWAYS, WAREHOUSES, STORES, &c.
The most ACCURATE MACHINES in use, and the cheapest.
MACHINES of all sizes, from 1 cwt. to 30 tons, for RAILWAY WAGONS, CARTS, or WAGONS.
For prices and all other information, apply to
HENRY J. MORTON AND CO., GALVANISED IRONWORKS, 2, BASINGHALL BUILDINGS, LEEDS.
Patent Asphalted Roofing Felts, Boiler Felts, Galvanised Iron, Mining Stores, &c., in Stock. 117

**PATENT COMBINED GAS WORKS, OF ALL SIZES,** for the use of PRIVATE HOUSES, MANSIONS, RAILWAY STATIONS, MILLS, COLLIERIES, VILLAGES, MINES, &c.
FIXED COMPLETE, with greatly improved means for purifying, &c.
Works of all sizes, from 10 lights to 500 lights, estimated for. The construction is so simple, that the works can be entrusted to the management of an ordinary labourer or servant. For LIGHTING CORNISH MINES these works are well adapted, and at a cost of one-half below the usual outlay.—Apply to
HENRY J. MORTON AND CO., GALVANISED IRONWORKS, 2, BASINGHALL BUILDINGS, LEEDS.
SOLE LICENSEES AND AGENTS. 118

**TO ENGINEERS, RAILWAY COMPANIES, STEAM PACKET COMPANIES, COLLIERY OWNERS, MILL OWNERS, &c.**
WARNE'S IMPROVED ANGLO-AMERICAN FLEXIBLE CANVAS, and MINERALISED INDIA RUBBER "PACKING" for STEAM JOINTS, PUMP CLACKS, VALVES, &c.
The attention of all using steam-power is called to this elastic packing, possessing advantages which renders it the cheapest in use. Reducing friction, saving time and labour, and lasting as many months as hemp or spun yarn will weeks.
Price 1s. 3d. per pound, carriage paid.
Also, MINERALISED INDIA RUBBER HOSE PIPES, TUBINGS, MILL BANDS, AND WASHERS.
The attention of engineers, mill owners, machine makers, brewers, and others, is called to the above improved hose pipes and machine belting or mill bands, the important advantages of which, as regards durability, efficiency, and cheapness, are too well known and appreciated to need comment.
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HENRY J. MORTON AND CO., GALVANISED IRONWORKS, 2, BASINGHALL BUILDINGS, LEEDS.
INDIA RUBBER WASHERS for JOINTS for steam, water, and gas, of all sizes. 119

**NOTICE TO RAILWAY AND STEAM-BOAT TRAVELLERS.**—ANDERTON'S HOTEL, 162, 164, and 165, FLEET STREET. BREAKFAST, with joint, 1s. 6d. BEDS, 10s. 6d. per week. DINNERS from Twelve to Eight o'clock; joint and vegetable, 1s. 6d.; with soup or fish, 2s. TURTLE SOUP and VENISON DAILY. TABLE D'HOTE at Half-past One and Half-past Five at Two Shillings each. A night porter in attendance. 120

**WINES FROM SOUTH AFRICA.**
PORT, SHERRY, &c., TWENTY SHILLINGS PER DOZEN.
These wines, the produce of a British colony which has escaped the vine disease (the vintage occurring in February may account for the same), are, in consequence, wholesome, and are warranted free from acidity and brandy, and are admitted by Her Majesty's Customs at half duty, hence the low price. A Pint Sample Bottle of each for 24 stamps, bottles included. Packages allowed for when returned.
EXCEL SIOR BRANDY, Pale or Brown, 15s. per gall., or 30s. per doz. Terms, Cash. Country orders must contain a remittance. Cheques to be crossed "Bank of London."
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Counting-house, First Door on the Left up Railway-place.
"Mr. Denman now supplies these wines at 20s. per dozen; and, as it is our rule not to speak in commendation of articles of which we are ignorant, it gives us much pleasure confidently to recommend these wines to our readers."—John Bull, Jan. 17, 1857.
"We have taken the trouble to try Mr. Denman's wines, and have also submitted them to several of the clergy, and the opinion formed is that they are worthy of being patronised."—Clerical Journal, Oct. 22. 121

**GLENFIELD PATENT STARCH,**
USED IN THE ROYAL LAUNDRY.
AND PRONOUNCED BY HER MAJESTY'S LAUNDRESS TO BE THE FINEST STARCH SHE EVER USED.
Sold by all chandlers, grocers, &c. 122

THE ONLY REAL CURE WITHOUT INWARD MEDICINE IS
**ROPER'S ROYAL BATH PLASTERS,**
For Coughs, Asthma, Hoarseness, Indigestion, Palpitation of the Heart, Croup, Hooping Cough, Influenza, Chronic Strains, Bruises, Lumbago, or Pains in the Back, Spinal and Rheumatic Affections, Diseases of the Chest, and Local Pains.
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"The trees drop balsam, and on all the boughs,
Health sits, and makes it sovereign as it flows."
Full-sized plasters, 1s. 1½d.; and for children, 9½d. each, or direct by post on receipt of 1s. 4d., or 1s. each in postage stamps. Sold by most Patent Medicine Vendors in the United Kingdom.
BEWARE OF IMITATIONS!—Be particular, and ask for ROPER'S PLASTER. 123

**RAILWAY WAGONS.—WILLIAM A. ADAMS AND CO.,** MIDLAND WORKS, BIRMINGHAM.
BROAD AND NARROW GAUGE COAL AND IRONSTONE WAGONS, *IN STOCK—FOR SALE OR HIRE.* 124

**THE RAILWAY CARRIAGE COMPANY,** OLDBURY, NEAR BIRMINGHAM.
MANUFACTURERS OF EVERY DESCRIPTION OF RAILWAY PLANT AND IRONWORK.
NEW AND SECOND-HAND RAILWAY WAGONS ALWAYS IN STOCK, FOR SALE OR HIRE.
LONDON OFFICES,—34, GREAT GEORGE STREET, WESTMINSTER. 125

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PIG, BAR, PLATE IRON, CHAINS, ANCHORS, FORGINGS, GIRDERS, PIPES, FOUNDRY WORK. 126
LONGRIDGE'S WEST HARTLEY STEAM COALS (on the Admiralty List), COKING, GAS, HOUSE, AND SMITHS' COALS, COKE, FIRE-BRICKS, &c.

**BURGIN AND WELLS, STEEL CONVERTERS AND REFINERS,** MANUFACTURERS of RAILWAY CARRIAGE and WAGON SPRINGS, IMPROVED CAST-STEEL FILES, &c.
HOLLIS CROFT STEEL WORKS, SHEFFIELD. 127

**JOHN H. PECK, MANUFACTURER OF RAILWAY OIL COVERS, CART AND WAGON COVERS, OIL CLOTH, STACK COVERS, BOAT SHEETS, TARPAULIN, BRATTICE CLOTH, COKE AND CORN SACKS, POTATO BAGS, TWINE, &c., WIGAN.**
LONDON AGENT.—T. E. WELLER, 15, Duke-street, Adelphi. 128

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| JOHN MARSHALL'S. | DANIEL ROSE'S. |

EVERY DESCRIPTION of IRON ALWAYS ON SALE. Also, TIN-PLATES, WIRE, RAILWAY SPIKES, &c. 129

**MUNTZ'S PATENT SOLID ROLLED BRASS TUBES,** FOR LOCOMOTIVE AND MARINE BOILERS.
G. F. MUNTZ begs to state that, in consequence of the satisfactory results obtained during the five years these tubes have been in use, the following railway companies have entered into contracts to USE the PATENT TUBES exclusively on all their lines, viz.:—

| | |
|---|---|
| The London and North-Western Comp. | The Lancashire and Yorkshire Company |
| The Midland Company. | The Newcastle and Carlisle Company. |

Lancaster and Carlisle Railway Company.
These tubes are also very extensively used on all the other principal railways at home and abroad, and for marine purposes by Her Majesty's Navy and several of the leading steam-packet companies, and also by all the eminent engineers of the kingdom.
G. F. MUNTZ takes this opportunity of stating that the tubes now manufactured are very superior, both in finish and quality, to those formerly produced in the early stage of the patent.—French Walls, Birmingham, April, 1857.
GEO. RICHARDSON and Co., Agents, 1, New Broad-street, City, E.C. 130

**CALVERT'S PATENT PROCESS FOR MAKING COKE AND IRON FREE FROM SULPHUR.**
For LICENSES to USE the above process, apply to ROBERT LONGDON, Jun., 63, King-street, Manchester.
For APPLICATION of the PATENT to GAS WORKS, apply to Mr. GEORGE TRICKETT, Exchange Chambers, Manchester. 131

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SHEET ZINC, out of the best selected SILESIAN SPELTER, refined and rolled at these mills, CONSTANTLY ON HAND, of all usual gauges, or rolled to order any practicable length, width, or thickness, to suit purchasers, on moderate terms. Also, TELEGRAPH PLATES, SHEATHING FOR VESSELS, &c. OLD ZINC and SHEATHING PURCHASED. SILESIAN SPELTER ON SALE.—Apply to the Manager, at the Mills; or at the office, 3, Harrington-street, Liverpool. 132

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Clayton Foundry, Wigan. 135

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**PATENT SAFETY FUSE.—The GREAT EXHIBITION PRIZE MEDAL** was AWARDED to the MANUFACTURERS of the ORIGINAL SAFETY FUSE, BICKFORD, SMITH, DAVEY, and PRYOR, who beg to inform Merchants, Mine Agents, Railway Contractors, and all persons engaged in Blasting Operations, that, for the purpose of protecting the public in the use of a genuine article, the PATENT SAFETY FUSE *has now a thread wrought into its centre*, which, being patent right, infallibly *distinguishes it from all imitations*, and ensures the continuity of the gunpowder.
This Fuse is protected by a Second Patent, is manufactured by greatly improved machinery, and may be had of any length and size, and adapted to every climate.
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Bands above ½ in. thick ..... 2s. 2d. per lb.
Subject to a liberal discount for cash, varying according to quantity. TUBING and other articles equally low. All our patented manufactures are to be obtained wholesale from our own works; retail from any of our dealers.
THE WEST HAM GUTTA PERCHA COMPANY.
West-street, Smithfield, London, E.C. 140

**VULCANIZED INDIA RUBBER MACHINE BANDING** is not affected by wet, heat, or cold; does not stretch nor slip on the pulleys. HOSES for BREWERIES, &c., will not impart taste, smell, or colour; also, for conducting, or steam purposes. VALVES, WASHERS, PACKING, &c., IN STOCK.—Prices and testimonials on application to DODGE and GRANDONATI (late Dodge, Bacon, and Co.), 44, St. Paul's Church-yard, London, E.C. 141

**TO IRONMASTERS.—GAUNTLETT'S PATENT PYROMETER, OR HEAT GAUGE FOR HIGH TEMPERATURES.**
Ever since the important invention of heated blast in the smelting of metallic ores was brought into general use, the want of an accurate and durable thermometer for indicating the heat of the blast has been generally experienced. That want is now supplied by this instrument.
Its ADVANTAGE consists in its capability of INDICATING HIGH TEMPERATURES beyond the reach of the ordinary mercurial thermometer. Its extreme sensitiveness, and the precision with which it registers high temperatures, renders it invaluable as an appendage to the heating stoves of blast furnaces. The fireman, if guided by its indications, is enabled to MAINTAIN A UNIFORM TEMPERATURE in the stove (an important matter in blast furnace operations), whereby a considerable saving of fuel may be effected, both in that used to heat the stove, as well as that which is consumed in the furnaces to smelt the minerals. These gauges are supplied only by W. J. LEOWARD, Middlesbrough-on-Tees. 142

BY HER MAJESTY'S ROYAL LETTERS PATENT.
**THE DISPATCH OIL SOCKET AND AXLE CLEANER.—** To be set in the Hubs or Naves of all kinds of Wheels, in New or Old Carriages (with or without patent or close boxes), Coaches, Omnibuses, Cabs, Carriages, Heavy Wagons, Artillery, Dray Carts, &c., of every description. For OILING and thoroughly CLEANING the AXLES without taking off the wheels, and in one minute.
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**MESSRS. KNOWLES AND BUXTON, CHESTERFIELD,** MANUFACTURERS OF PATENT TUBULAR TUYERES, FOR HOT BLAST FURNACES, SMITHS' FORGES, &c.

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Messrs. KNOWLES and BUXTON can with confidence bring before the public their IMPROVEMENT in TUYERES, having proved their utility at Mr. Knowles's furnace, Brimington Moor, as well as at other furnaces in the surrounding neighbourhood. They are now perfectly satisfied that one trial will be sufficient to convince all practical furnace managers that they are the CHEAPEST and BEST ever offered to the public. The annexed diagram shows the principle to be both simple and efficient, conveying a current of cold water direct to the nozzle of the tuyere, which is made of thin tubing (without the incumbrance of cast-iron), allowing the cooling property of the water to act direct upon that part most exposed to the fire, and is sufficient to keep the liquid metal from adhering to the tuyere, which is not the case with those generally in use. After taking into consideration the first cost, and the advantage of being able to work them longer without the loss of time in replacing, or injuring the metal, they will be found, after a fair and impartial trial, to be most decidedly a great advantage to furnace proprietors.
Messrs. KNOWLES and BUXTON are prepared to SUPPLY hot-blast furnace tuyeres, with sockets, at 36s. each; without sockets, at 35s. each; smiths' forge tuyeres, at 15s. each; delivered at Chesterfield Station. 144

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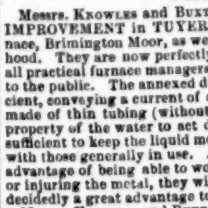

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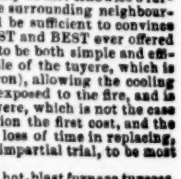

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These ENGINES have been SUCCESSFULLY EMPLOYED for years in PUMPING AND WINDING, in every part of the United Kingdom, and a LARGE STOCK IS NOW READY FOR DELIVERY, either to rent or purchase, from 4-horse to 40-horse power.
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**HALEY'S PATENT LIFTING JACK,**
MANUFACTURED BY THE INVENTOR,
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SCREW JACKS, SHIP JACKS.
SLIDE AND CENTRE LATHES, PLANING, SHAPING, BORING, DRILLING, SCREWING, WHEEL CUTTING, AND OTHER MACHINES.
RIVET MAKING MACHINES.

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TO ENGINEERS, MILL OWNERS AND OTHERS.
S. W. SILVER & CO. INDIA RUBBER WORKS NORTH WOOLWICH
MANUFACTURERS OF
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ELASTIC CANVAS AND INDIA RUBBER STEAM PACKING.
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THE GREAT EUROPEAN REMEDY
FOR NERVOUSNESS, RELAXATION, AND EXHAUSTION.
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Price 11s., and four times the quantity 33s. per bottle, obtainable through all medicine vendors; of whom also may be had the "Medical Adviser," 2s. 6d. in sealed envelope; or it may be sent direct from the author for 42 penny stamps.
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HOLLOWAY'S PILLS.—LET THE SICK TAKE HEED.—The stomach is the commissariat of the physical system. It furnishes the material sustenance of every organ. If disordered, the whole body languishes; but however severely affected, its tone and vigour may always be restored by a course of these irresistible pills. Bile, indigestion, liver complaint, and other disorders of the stomach, can easily be cured by the use of Holloway's Pills. Thousands attest to this assertion, and no sufferer that has ever tried them will deny their supreme efficacy.—Sold by all medicine vendors throughout the world: at Prof. Holloway's establishments, 244, Strand, London, and 80, Maiden-lane, New York; by A. Stampa, Constantinople; A. Guidicy, Smyrna; and E. Muir, Malta. 152

# THE MINING SHARE LIST.

| Shares. | Mines. | Paid. | Last Price. | Present. | Dividends per Share. | Last Paid. |
|---|---|---|---|---|---|---|
| 5120 | Alfred Consols (cop.), Phillack* [S.E.] | 2l. 11s. 10d. | £15 | 14 | £17 17 0 | £0 4 0—Oct. 5, 1857. |
| 1624 | Balleswidden (tin), St. Just | 11¼ | 4 | 12 5 0 | 0 5 0 | —Jan. 1, 1854. |
| 4000 | Bedford United (copper), Tavistock+ | 2l. 6s. 8d. | 6¼ 7¼ | 9 11 6 | 0 6 0 | —Aug. 27, 1857. |
| 240 | Boscean (tin), St. Just | 20¼ | 100 | 80 90 | 21 0 0 | 3 0 0—Sept. 4, 1857. |
| 200 | Botallack (tin, copper), St. Just* | 91¼ | 220 | 200 | 415 5 0 | 5 0 0—Oct. 27, 1857. |
| 1200 | Brightside and Froggatt Grove, Derbyshire. | 3 | 4 | 4¼ 4¾ | 3 0 0 | 0 3 0—Apr. 30, 1856. |
| 100 | Brynford Hall (lead), Flint+ | 20 | 80 | 40 50 | 13 0 0 | 5 0 0—July 31, 1856. |
| 1000 | Bryntall, Llanidloes, Montgomeryshire | 7¾ | 2 | 1 1¼ | 0 5 0 | 0 5 0—July 1, 1856. |
| 420 | Budnick Consols (tin), Perran | 2¾ | 6 | 6 | 0 10 0 | 0 10 0—Mar. 26, 1857. |
| 6000 | Bwlch (silver-lead), Cardiganshire | 3l. 1s. 6d. | 1 | 1 | 0 2 6 | 0 2 6—July 30, 1856. |
| 1000 | Carn Brea (copper, tin), Illogan | 15 | 45 | 45 50 | 237 10 0 | 2 0 0—Nov. 11, 1857. |
| 2048 | Carnyorth (tin), St. Just | 4¾ | 5½ | 5¾ 6¼ | 0 15 0 | 0 3 0—June 16, 1856. |
| 200 | Cefn Cwm Brwyno (lead), Cardiganshire | 33 | 55 | 45 | 3 0 0 | 3 0 0—Oct. 4, 1855. |
| 2000 | Collacombe (copper) | 5 | 16 | 14 15 | 2 17 0 | 0 7 0—Sept. 30, 1857. |
| 256 | Condurrow (copper, tin), Camborne [S.E.] | 20 | 110 | 110 115 | 85 0 0 | 2 0 0—June 10, 1857. |
| 1055 | Craddock Moor (copper), St. Cleer | 8 | 40 | 40 | 0 12 0 | 0 7 0—Nov. 6, 1857. |
| 30000 | Craven Moor, Limited (lead), Yorkshire | ⅛ | ⅛ | | 0 0 9 | 0 0 9—Feb. 28, 1856. |
| 128 | Cwmystwith (lead), Cardiganshire+ | 60 | 140 | 150 | 95 0 0 | 5 0 0—Aug. 20, 1857. |
| 280 | Derwent Mines (silver-lead), Durham | 300 | 150 | 150 | 122 0 0 | 10 0 0—June 25, 1857. |
| 1034 | Devon Great Consols (cop)., Tavist.* [S.E.] | 1 | 430 | 440 | 595 0 0 | 8 0 0—Nov. 20, 1857. |
| 672 | Ding Dong (tin), Gulval+ | 32 | 20 | 17½ 20 | 16 7 6 | 1 10 0—Mar. 2, 1857. |
| 179 | Dolcoath (copper, tin), Camborne* | 257¾ | 310 | 250 270 | 943 0 0 | 8 0 0—Oct. 12, 1857. |
| 12800 | Drake Walls (tin, copper), Calstock | 1l. 19s. | 2 | 1¾ 1¾ | 0 13 6 | 0 2 0—Sept. 11, 1857. |
| 800 | East Daren (lead), Cardiganshire+ | 32 | 100 | 100 | 33 0 0 | 3 0 0—Oct. 15, 1857. |
| 2048 | East Falmouth (lead) | 2 | 3 | 4½ 4¾ | 0 5 0 | 0 2 6—Oct. 19, 1857. |
| 128 | East Pool (tin, copper), Pool, Illogan* | 24¼ | 340 | 150 200 | 292 10 0 | 2 10 0—Oct. 22, 1857. |
| 1024 | East Wheal Margaret (tin, copper) | 7¾ | 10 | 3½ 4 | 0 5 0 | 0 5 0—Jan. 11, 1854. |
| 5700 | Exmouth (silver-lead) | 4l. 14s. | 8 | | 3 5 0 | 0 4 0—Oct. 23, 1857. |
| 1400 | Eyam Mining Company (lead), Derbyshire | 5 | 60 | 59 61 | 15 13 4 | 1 0 0—Oct. 8, 1857. |
| 4940 | Fowey Consols (copper), Tywardreath | 4 | 7 | 5 | 41 4 3 | 0 6 0—Feb. 17, 1857. |
| 4448 | General Mining Co. for Ireland (cop., lead) | 3½ | 1 | 1¾ | 1 0 8 | 0 3 3—June 5, 1853. |
| 2000 | Goginan (silver-lead), Cardiganshire | 7¼ | — | 2½ | 22 0 0 | 0 5 0—Sept. 5, 1850. |
| 1024 | Gonamena (copper), St. Cleer | 13¾ | 15 | 10 12 | 0 7 6 | 0 7 6—Dec. 21, 1852. |
| 243 | Grambler and St. Aubyn (copper) | 109¾ | 82½ | 80 82½ | 6 0 0 | 2 0 0—Nov. 3, 1857. |
| 6000 | Great South Tolgus [S.E.] | 2¾ | 16 | 14½ 15 | 1 4 6 | 0 8 0—Oct. 26, 1857. |
| 26666 | Great Wheal Vor (tin, cop.), Helston [S.E.] | 7¾ | 2¾ | 3¼ | 0 5 0 | 0 5 0—Oct. 22, 1855. |
| 119 | Great Work (tin), Germoe | 100 | 140 | | 221 10 0 | 7 10 0—Feb. 27, 1857. |
| 1024 | Herodsfoot (lead), near Liskeard | 8½ | 7¼ | 7 | 3 2 6 | 0 10 0—Sept. 23, 1857. |
| 6000 | Hingston Down Consols (copper), Calstock | 3¾ | 6¼ | 5¼ 5½ | 2 16 0 | 0 2 6—Nov. 25, 1856. |
| 2000 | Holyford (copper), near Tipperary | 11 | 8¾ | | 4 2 6 | 0 5 0—Jan. 28, 1857. |
| 2560 | Isle of Man (Limited)* | 25 | 42 | | 54 17 3 | 1 0 0—Sept. 3, 1857. |
| 76 | Jamaica (lead), Mold, Flintshire | 3l. 13s. 6d. | — | | 380 0 0 | 5 0 0—Mar. 10, 1851. |
| 20 | Laxey Mining Company, Isle of Man | 100 | 1000 | 1000 | 1420 0 0 | 50 0 0—June 30, 1857. |
| 160 | Levant (copper, tin), St. Just | 2½ | 90 | 80 90 | 1062 0 0 | 4 0 0—May 12, 1857. |
| 5000 | Lewis Mines (tin, copper), St. Erth | 5l. 15s. 11½d. | 3¼ | 3¼ 3¾ | 0 10 0 | 0 10 0—Dec. 20, 1855. |
| 400 | Lisburne (lead), Cardiganshire, Wales | 18¾ | 120 | 120 | 301 10 0 | 3 0 0—Oct. 1, 1857. |
| 6000 | Marke Valley (copper), Caradon | 4l. 10s. 6d. | 3 | 2½ 3 | 0 5 6 | 0 3 0—Sept. 7, 1855. |
| 5000 | Mendip Hills (lead), Somerset | 3¾ | 1¾ | 1¾ 1¾ | 1 7 6 | 0 5 0—May 29, 1857. |
| 5000 | Merllyn (lead), Flint | 3¼ | ⅜ | ⅜ ⅜ | 1 11 0 | 0 2 6—June 22, 1853. |
| 1800 | Minera Mines (Limited) | 25 | 90 | 125 | 21 0 0 | 3 10 0—Aug. 13, 1857. |
| 20000 | Mining Co. of Ireland (copper, lead, coal) | 7 | 15 | 15 | 12 15 6 | 0 10 6—July 2, 1857. |
| 5000 | Nanteos and Penrhiw, Limited (£2½ shares) | 1¾ | 1¾ | 1¾ 1¾ | 0 1 6 | 0 1 6—Apr. 30, 1855. |
| 6400 | Nether Hearth, Westmoreland | 2s. | 1¾ | 1 1¾ | 0 2 0 | 0 1 0—May 21, 1856. |
| 470 | Newtonards Mining Company, Co. Down+ | 50 | 35 | | 48 0 0 | 1 0 0—Oct. 17, 1856. |
| 200 | North Pool (copper, tin), Pool | 3l. 10s. 3d. | 70 | 60 70 | 324 0 0 | 2 0 0—Dec. 26, 1854. |
| 140 | North Roskear (copper), Camborne | 50l. 7s. 6d. | 130 | 125 135 | 750 0 0 | 4 0 0—Sept. 26, 1853. |
| 6000 | North Wheal Basset (cop., tin), Illo.* [S.E.] | nil. | 15¾ | 14 15 | 13 19 0 | 0 6 0—Oct. 28, 1857. |
| 6400 | Par Consols (copper), St. Blazey [S.E.] | 1¾ | 20 | 19 19¾ | 31 4 0 | 1 10 0—Oct. 27, 1857. |
| 500 | Peak United (lead), North Derbyshire | 7¾ | 2¾ | 2 2¼ | 4 10 0 | 0 10 0—Apr. 12, 1856. |
| 200 | Phœnix (copper, tin), Linkinghorne | 100 | 370 | 370 | 244 10 0 | 20 0 0—Nov. —, 1857. |
| 1000 | Polberro (tin), St. Agnes (Preferential) | 15 | — | | 18 11 9 | 1 0 3—July 11, 1857. |
| 560 | Providence Mines (tin), Uny Lelant+ | 20l. 13s. 2d. | 75 | 70 72½ | 70 4 6 | 4 0 0—Nov. 18, 1857. |
| 2500 | Rhosewydol and Bacheiddon (lead) | 11¾ | 12 | | 0 13 0 | 0 3 0—Oct. 21, 1857. |
| 512 | Rosewarne United (copper, tin), Gwinear* | 12 | 25 | 22½ 25 | 32 10 0 | 1 10 0—June 8, 1857. |
| 12000 | Sortridge Consols (cop.), Whitchurch [S.E.] | 6s. | 2¼ | 1¾ 2 | 0 10 0 | 0 2 6—July 27, 1857. |
| 256 | South Caradon (copper), St. Cleer* [S.E.] | 2½ | 340 | 340 xd | 492 0 0 | 10 0 0—Nov. 24, 1857. |
| 128 | South Crinnis (copper), St. Austell | 19 | 285 | 285 | 60 0 0 | 20 0 0—June 18, 1855. |
| 256 | South Tolgus (copper), Redruth, Cornwall | 18 | 120 | 100 110 | 74 0 0 | 3 0 0—July 28, 1857. |
| 496 | South Wheal Frances, Illogan* [S.E.] | 18l. 18s. 9d. | 240 | 220 240 | 275 5 0 | 8 0 0—Nov. 2, 1857. |
| 1024 | Spearne Consols (tin), St. Just, Cornwall | 3l. 6s. | 2 | 1 1¼ | 8 8 6 | 0 2 6—Dec. 10, 1853. |
| 280 | Spearne Moor (copper), St. Just+ | 23l. 7s. 8d. | 15 | | 4 5 0 | 0 10 0—June 13, 1856. |
| 970 | St. Aubyn and Grylls (cop., tin), Breage | 6l. 8s. 4d. | 5 | 4 4¼ | 0 17 6 | 0 7 6—April 1, 1852. |
| 20000 | St. Day United (tin and copper) | 2 | 1¼ | ⅝ 1⅝ | 0 2 6 | 0 1 0—Sept. 14, 1857. |
| 94 | St. Ives Consols (tin), St. Ives | 80 | 160 | 150 160 xd | 915 0 0 | 5 0 0—Nov. 19, 1857. |
| 9600 | Tamar Consols (sil.-lead), Beeralston [S.E.] | 4¼ | 1¼ | 1 1¼ | 4 13 6 | 0 2 6—Feb. 7, 1856. |
| 6000 | Tincroft (copper, tin), Pool, Illogan [S.E.] | 9 | 4 | 3¾ 4 | 8 3 6 | 0 5 0—April 13, 1857. |
| 572 | Trelyon Consols (tin), St. Ives | 11¼ | 14 | 13 15 | 1 15 0 | 1 0 0—June 4, 1855. |
| 96 | Treavean (copper), Gwennap, Cornwall | 42¼ | 65 | 55 65 | 4677 15 0 | 5 0 0—June 4, 1855. |
| 120 | Trethellan (copper), Gwennap, Cornwall | 15¾ | 20 | 18 20 | 403 13 6 | 2 10 0—Apr. 29, 1851. |
| 4000 | Tretoll (copper, tin), Bodmin | 1l. 3s. 6d. | 3 | 1 1¼ | 0 5 0 | 0 3 0—July 5, 1856. |
| 4096 | Trewetha (silver-lead), Menheniot, Cornwall | 2¼ | 1 | 1 1¾ | 1 12 0 | 0 3 0—April 2, 1857. |
| 100 | Trumpet Consols (tin), near Helston | 95 | 50 | 50 | 55 0 0 | 5 0 0—Dec. 20, 1854. |
| 400 | United Mines (copper), Gwennap [S.E.] | 40 | 125 | 115 120 | 61 5 0 | 2 0 0—Feb. 12, 1856. |
| 20000 | Vale of Towy (lead), Carmarthen [S.E.] | ⅛ | ⅛ | ⅛ 1 | 0 3 9 | 0 0 0—June 12, 1857. |
| 512 | Wendron Consols (tin), Wendron | 23l. 7s. 8d. | 40 | 34½ 35½ | 2 0 0 | 1 0 0—Sept. 22, 1857. |
| 6000 | West Basset (copper), Illogan* [S.E.] | 1¾ | 25 | 24 26 | 12 10 0 | 0 10 0—Nov. 25, 1857. |
| 256 | West Caradon (copper), Liskeard [S.E.] | 20 | 120 | 110 | 285 5 0 | 2 0 0—Sept. 23, 1857. |
| 256 | West Damsel (copper), Gwennap | £10 7 | 80 | 75 80 | 22 0 0 | 2 0 0—July 20, 1857. |
| 1024 | West Providence (tin), St. Erth+ | 1l. 11s. 7d. | 13 | 11 13 | 33 1 9 | 0 10 0—April 8, 1857. |
| 400 | West Wheal Seton (copper), Camborne* | 38¾ | 330 | 310 320 | 94 10 0 | 9 0 0—Oct. 14, 1857. |
| 228 | Wheal Arthur (copper), Calstock | 8 | 6 | 3¾ 4 | 6 10 0 | 0 10 0—Oct. 25, 1855. |
| 240 | Wheal Bal (tin), St. Just | 6 | 5 | | 2 0 0 | 1 0 0—Nov. 14, 1855. |
| 512 | Wheal Basset (copper), Illogan* [S.E.] | 5¼ | 165 | 150 160 | 468 10 0 | 5 0 0—Oct. 6, 1857. |
| 256 | Wheal Buller (copper), Redruth* [S.E.] | 5 | 310 | 290 310 | 850 0 0 | 7 10 0—Nov. 17, 1857. |
| 1024 | Wheal Charlotte, Perranuthnoe | 3¾ | 4 | 5 | 1 10 0 | 0 10 0—Sept. 9, 1855. |
| 250 | Wheal Clifford (copper), Gwennap | — | 450 | 230 250 | 42 0 0 | 3 0 0—Oct. 26, 1857. |
| 900 | Wheal Fortescue, Bodmin | nil. | ⅞ | | 0 2 4 | 0 1 6—Jan. 14, 1856. |
| 128 | Wheal Friendship (copper), Devon | 50 | 80 | | 2375 10 0 | 8 0 0—May 10, 1854. |
| 024 | Wheal Grylls (copper, tin), Breage | 4s. | ⅛ | ⅛ | 0 2 0 | 0 2 0—Feb. 24, 1857. |
| 512 | Wheal Jane (silver-lead), Kea | 3¼ | 20 | 17½ 20 | 8 10 0 | 1 10 0—Oct. 16, 1857. |
| 5000 | Wheal Kitty (tin), St. Agnes | 4¼ | 4¼ | 4½ 5 | 0 6 0 | 0 3 0—Mar. 24, 1857. |
| 1024 | Wheal Kitty (tin), Uny Lelant [S.E.] | £1 7 2 | 17 | 15 16 | 6 0 0 | 1 0 0—Sept. 17, 1857. |
| 430 | Wheal Lovel (tin), Wendron | 33 | 18 | | 31 0 0 | 1 0 0—Sept. 5, 1856. |
| 448 | Wheal Margaret (tin), Uny Lelant+ | 19¾ | 60 | 47¼ 52½ | 84 0 0 | 2 0 0—Nov. 25, 1857. |
| 1024 | Wheal Mary Ann (lead), Menheniot+ [S.E.] | 8 | 50 | 50 52½ | 30 2 6 | 2 5 0—Sept. 15, 1857. |
| 40 | Wheal Owles, St. Just, Cornwall | 70 | 300 | 300 | 220 13 0 | 5 0 0—Aug. 2, 1857. |
| 240 | Wheal Reeth (tin), Uny Lelant | 31½ | 35 | 35 40 | 40 10 0 | 3 0 0—Aug. 23, 1852. |
| 198 | Wheal Seton (tin, copper), Camborne* | 107 | 150 | 125 135 | 286 10 0 | 2 0 0—Oct. 12, 1857. |
| 1040 | Wheal Trelawny (sil.-ld.), Liskeard [S.E.] | 4¼ | 23½ | 23½ 24 | 29 10 0 | 1 0 0—Oct. 26, 1857. |
| 1024 | Wheal Tremayne (tin, copper), Gwinear | 11¾ | 5 | 5 | 19 2 6 | 0 7 6—Jan. 11, 1854. |
| 4096 | Wheal Wrey (lead), St. Ive+ | 1l. 9s. | 5½ | 5¼ 5¾ | 2 10 0 | 0 4 0—June 16, 1857. |
| 5000 | Wicklow (copper), Wicklow | 5 | 31¾ | 32¾ | 27 5 6 | 1 0 0—July 9, 1857. |

[* Dividends paid every two months. † Dividends paid every three months.]

## FOREIGN MINES.

| | | | | | | |
|---|---|---|---|---|---|---|
| 5000 | Alten Mining Company (copper), Norway | £14½ | 2 | 2 | 4 5 0 | 0 15 0—Nov. 21, 1853. |
| 2484 | Burra Burra (copper), South Australia | 5 | 114 | 130 | 185 0 0 | 5 0 0—June 5, 1857. |
| 12000 | Cobre Copper Company (cop.), Cuba [S.E.] | 40 | 40 | 39 41 | 85 12 0 | 1 0 0—July 21, 1857. |
| 10000 | Copiapo Mining Company, Chili [S.E.] | 16 | 12 | 10 12 | 5 8 0 | 0 10 0—May 9, 1856. |
| 20000 | General Mining Assoc., Nova Scotia [S.E.] | 20 | 16½ | 13 15 | 10 5 0 | 0 15 0—July 7, 1857. |
| 15000 | Linares (lead), Pozo Ancho, Spain [S.E.] | 3 | 8¾ | 8¾ | 4 5 6 | 0 5 0—June 25, 1857. |
| 10000 | Lusitanian (of Portugal) [S.E.] | 1¾ | 1¾ | ½ 1 | 0 4 3 | 0 1 9—Sept. 3, 1856. |
| 103815 | Mariquita and New Granada [S.E.] | 1 | ⅜ | ⅜ ⅜ | 0 4 0 | 0 1 0—Aug. 20, 1857. |
| 25000 | Peninsular Mining Company (Limited) | | ⅛ | ⅛ | 0 2 6 | 0 2 6—Sept. 29, 1855. |
| 10000 | Pontgibaud (silver-lead), France [S.E.] | 20 | 6 | 5 6 | 1 0 0 | 0 1 0—June 26, 1855. |
| 7000 | Royal Santiago (copper), Cuba [S.E.] | 16¾ | 2½ | 1½ 2 | 33 0 0 | 1 5 0—July 12, 1848. |
| 11000 | St. John del Rey | 15 | 12 | 12¾ 13 | 34 7 6 | 1 0 0—Nov. 26, 1856. |
| 43174 | United Mexican (silver), Mexico [S.E.] Av. | 28¼ | 3¾ | 3¾ | 1 16 6 | 0 4 0—Feb. 14, 1853. |
| 30000 | Mexican and So. Amer. Smelting Co. [S.E.] | 10 | ⅜ | ⅛ ⅛ | 6 15 0 | 0 7 6—Dec. 12, 1855. |
| 89676 | North British Australasian [S.E.] | 1 | ⅜ | ⅜ ⅜ | 0 1 8 | 0 1 0—Apr. 17, 1855. |

## NON-DIVIDEND FOREIGN MINES.

| Shares. | | Paid. | Last Price. | Present. |
|---|---|---|---|---|
| 20000 | Australian [S.E.] | 7 | ⅜ | ⅜ ⅜ |
| 50000 | Chancellorsville Freehold | 1 | 5s. | 3s.6d.4s. |
| 50000 | Clarendon Consols [S.E.] | ⅛ | 4s. | 4s 4s 6d |
| 53040 | Cologne Mining Company | £1 4 | ⅜ | |
| 350000 | Copper Miners of Eng. [S.E.] Stock | 28 | 26 | 26 28 |
| 12000 | Ditto, Pref., 7½ per cent. [S.E.] | 25 | 27 | 27 |
| 25000 | Fortuna | 2 | 1¾ | 1¾ 1¾ |
| 2309 | Kinzigthal Min. Ass., Germany | 4 | 1½ | |
| 25000 | Liberty, Virginia | 1 | — | |
| 40000 | London and Virginia | 17s. | — | |
| 80000 | Mount Carbon (coal), Virginia | 1 | — | ⅛ |
| 60000 | New Granada [S.E.] | 1 | ⅜ | ⅜ ⅜ |
| 10000 | New Grand Duchy of Baden | ⅛ | ⅜ | ⅜ |
| 200000 | Nouveau Monde [S.E.] | 1 | ⅜ | ⅜ |
| 100000 | Port Phillip | 1 | ⅜ | ⅜ |
| 6000 | Roesie and Canada Lead | 1 | — | |
| 47795 | Strathalbyn (Limited) | 1 | — | |
| 7820 | Ditto, Preference, 10 per cent. | 1 | — | |
| 35425 | Wheal Jamaica (copper) | 14s. | 14s. | 16s. |
| 75000 | Wildberg (sil.-lead, copper) | 2 | 1 | 1 |

## PROGRESSIVE MINES.

| Shares. | | Paid. | Last Price. | Present. |
|---|---|---|---|---|
| 6000 | Abbey Consols (lead), Cardigan | 14s.6d. | 1¼ | 1¾ |
| 16000 | Angarrack | 1 | — | 1¼ 1⅜ |
| 10000 | Arundell (cop.), near Ashburton | 2 | — | |
| 899 | Balnoon Con. (tin), Uny Lelant | £5 3 6 | 1 | 1¼ 1⅜ |
| 4000 | Ballyvirgin, Co. Clare | £2 3 | 3¼ | |
| 10000 | Bampfylde (copper), Devon | ⅛ | — | ⅛ 1 |
| 1000 | Barf (lead), Keswick | 1¾ | 2¼ | 2¾ 2¾ |
| 6800 | Basset Graze United (cop.), Kea | 1¾ | 1¾ | |
| 4000 | Bedford Consols (copper) | 12s. | ⅜ | ⅜ ⅜ |
| 2200 | Benderg (Limited) | 1 | 1 | 1 |
| 250 | Berriow Consols | £12 16 | 10 | 8 |
| 5000 | Boiling Well (cop.), Gwithian | 3 | 2 | 1¾ 2 |
| 6000 | Bolenowe (copper) | £1 17 6 | ⅜ | |
| 1258 | Boscaswell | — | — | 5 5½ |
| 1120 | Bridford Consols | £8 8 | 7¼ | 7¾ |
| 4000 | Brook Wood, Buckfastleigh | ⅛ | 1 | 1 |
| 2000 | Bryn-y-Fedwen (lead) | 3¾ | 1 | |
| 6000 | Buckland Consols (copper) | ⅛ | ¼ | ¼ |
| 6380 | Buller and Basset United | 2¼ | 4 | 4 4½ |
| 1200 | Buller and Bertha (copper) | £2 2 | 1½ | 1 1¾ |
| 3000 | Cae-Cynon, Cardiganshire | 10s. 6d. | ⅜ | |
| 600 | Calcot Hall (lead), Limited | 10 | — | |
| 4096 | Calstock Consols (copper) | 5 | 5 | 5¼ 6 |
| 2000 | Calstock United (tin and cop.) | 6¾ | ⅛ | 1 1¾ |
| 1000 | Camborne Consols | 13¾ | 7 | 8 9 |
| 920 | Camborne Vean & Wh. Frances | £12 8 9 | 7 | 6 |
| 6000 | Caradon Consols, St. Cleer | 11 | 6¾ | 7 7¼ |
| 916 | Cargoll (silver-lead), Newlyn | £12 7 3 | 15 | 10 12 |
| 2580 | Carmarthen United (lead) | 2½ | 2½ | 2½ |
| 4370 | Carnewas (lead, cop.), Mawgan | 13s. | 1 | ⅞ |
| 7900 | Carrack Dews United, St. Ives | 2¾ | — | |
| 1055 | Carvannall (copper), Gwennap | 11 | 5 | 2 2½ |
| 6400 | Carvath United, St. Austell | 2¾ | 1 | |
| 6400 | Castell (lead and blende), Card. | 11s.6d. | ⅜ | ⅜ ⅜ |
| 12000 | Catherine and Jane Consols | ⅛ | ⅛ | ⅛ |
| 6000 | Cefn Gwyn (sil.-ld.), Cardigan. | 1 | ⅛ | |
| 6000 | Chollacot Consols (copper) | 3s. 6d. | ⅜ | ⅜ 1 |
| 1024 | Clijah & Wentworth (tin, cp.) | £21 15 6 | 4½ | 4½ 5 |
| 8000 | Clowance Wood, Crowan | | ⅛ | ⅛ ⅛ |
| 2450 | Cook's Kitchen, Illogan | £16 10 9 | 5 | 4½ 5 |
| 256 | Copper Hill (copper), Redruth | 38 | 200 | 180 200 |
| 1000 | Cwm Erfin (lead) Cardiganshire | 8 | 1¼ | |
| 6000 | Cwm Sebon (Limited) | £2 6 6 | 1¾ | 1¼ 1¾ |
| 1000 | Daren (sil.-lead), Cardiganshire | 6 | 5 | 4¾ 5 |
| 4096 | Devon & Cornwall United (cop.) | £4 6 3 | 12 | 15 |
| 3907 | Devon and Courtenay (copper) | ⅞ | ⅛ | ⅛ |
| 4000 | Devon Burra Burra (copper) | £5 3 | — | |
| 10000 | Devon Great Elizabeth (copper) | £1 2 | — | 2½ 2¾ |
| 4566 | Devon Wheal Buller | £1 18 6 | ⅜ | ⅜ ⅜ |
| 4315 | Duke of Cornwall, Lostwithiel | £6 4 4 | 3¾ | 3¾ |
| 3000 | Dyfngwm (lead), Wales | £12 6 6 | 13¾ | 13 13¾ |
| 256 | Eaglebrook, Llanphangel, Card. | 40 | 20 | 23 25 |
| 4096 | East Alfred Consols | £1 3 6 | 2¼ | 2¼ 2¾ |
| 85 | East Balleswidden, Sancreed | 19¾ | 17 | 20 |
| 512 | East Basset (copper), Redruth | 27¾ | 95 | 99 |
| 1024 | East Buller (copper), Redruth | 15 | 2¾ | 2¾ 3 |
| 6144 | East Caradon (copper) | 2¾ | 1¾ | |
| 6000 | East Cornwall Cons. (tin & cp.) | 2¾ | 3 | 2¾ 3 |
| 5200 | East Fowey Consols | 1¾ | ⅞ | ⅞ |
| 5500 | East Frongoch | 16s. 6d. | — | ⅛ |
| 4096 | East Gonamena (copper) | 1s. 3d. | ⅛ | ⅛ |
| 4000 | E. Gunnis Lake & S. Bedf. (cp.) | £3 19 6 | 2 | 2¼ 2¾ |
| 5000 | East Hender (copper), Crowan. | ⅛ | ⅛ | ⅛ ⅛ |
| 6000 | East Kitt Hill (tin) | ⅛ | 1⅝ | 1¾ 1¾ |
| 4096 | East Providence (tin), Uny Lel. | ¼ | 2¼ | 1¾ 2¼ |
| 5000 | E. Rosewarne (cp., tin), Gwinear | £1 5 6 | 1¼ | 1¼ |
| 1000 | East Rosewarne (tin), Crowan | ⅛ | ⅛ | 1 1⅛ |
| 7750 | East Sortridge | 3s. | ⅛ | ⅛ |
| 9000 | East Tamar (sil.-ld.), Beerferris | £2 10 6 | ⅛ | ⅛ ⅛ |
| 256 | East Tolgus (copper), Redruth | 47 | 55 | 40 45 |
| 1000 | East Trefusis (copper) | £3 17 10 | 5 | 5½ 6 |
| 119 | East Wheal Agar | 67 | — | 10 |
| 6000 | East Wheal Clifford (cop.), Kea | 2 | 1¼ | 1¼ |
| 10000 | East Wheal Robert (copper) | ⅛ | ⅛ | ⅛ ⅛ |
| 4000 | East Wheal Russell, Tavistock | £4 11 | 2¼ | 2¼ 2⅜ |
| 5000 | Fee Donald (lead) | 8s. 6d. | ⅛ | ⅛ |
| 512 | Forest (copper), Illogan | 6 | 4 | 4 |
| 5000 | Fox Tor Alvenny (t. &c.), Limit. | 5 | 3 | |
| 5000 | Frank Mills, Devon | £3 6 6 | ¼ | 3¼ 4 |
| 5000 | Fee Donald (lead) | 6 | 4 | 4 |
| 5000 | Gallt-y-Ffrith-Rhedyn (Limited) | 3 | 3 | |
| 5000 | Garreg (lead), Flint | £3 13 6 | ⅜ | ⅜ ⅜ |
| 4000 | Gawton (copper), Tavistock | 3l. | 1¼ | ⅜ 1 |
| 6000 | Gellirheiron (sil.-ld.), Cardigan | 1 | ⅛ | |
| 1024 | Gilmar (tin), St. Erth | £6 18 6 | ⅜ | ⅜ |
| 4096 | Great Caradon (copper) | 4s. | ⅛ | ⅛ ⅛ |
| 30000 | Great Crinnis (cop.), St. Austell | 1 | ⅛ | ⅛ ⅛ |
| 4000 | Great Dowgas | 5¾ | 3 | 3¼ |
| 15000 | Great Hewas United (tin) | £1 17 | 1¼ | ⅞ |
| 13864 | Great Onslow Con., Camelford | 1 | ⅛ | |
| 1024 | Gt. Sheba Con., Stoke Climsland | 24¼ | 5 | 5 5½ |
| 12000 | Great Sortridge, Whitchurch | 6s. 6d. | — | |
| 14000 | Gt. Tregune Consols, Altarnun | 1 | 1 | |
| 5120 | Great Wheal Alfred [S.E.] | £11 7 5 | 5 | 5 |
| 5120 | Great Wheal Baddern (tin) | £3 10 6 | ¾ | ¾ 1 |
| 6000 | Gt. Wh. Busy (cop. & tin), Kenwyn | 6¾ | 6¼ | 6¾ 7 |
| 1024 | Gt. Wheal Fortune, Breage | £25 18 10 | 7 | 8½ 4¼ |
| 3000 | Gwinear Consols (copper) | 5 | 4 | |
| 9600 | Gwydyr Park Consols, Llanrwst | 8s. 3d. | ⅛ | ⅛ |
| 512 | Halamanning and Croft Gothal | 104¼ | 2 | |
| 8192 | Hawkmoor (tin, cop.), Calstock | 1¾ | ¾ | ¾ 1 |
| 100 | Herward United (lead), Flint | 60 | 55 | 55 |
| 5000 | Holmbush (ld., cop.), Callington | 4¼ | 2 | 1¾ 2 |
| 6000 | Huckworthy Bridge (copper) | ⅛ | ⅛ | ⅛ |
| 5000 | Kelly Bray (ld., cp.), Callington | £3 19 6 | 1¾ | 1¾ 1¾ |
| 2048 | Keneggy, Breage | 19s. 7d. | — | 2 |
| 6000 | Keswick (lead), Portinscale | £4 9 6 | 1 | |
| 6500 | Kinnerton, Salop | £1 3 | — | 1¼ |
| 6000 | Lady Bertha (copper) [S.E.] | 17s. | 1¼ | 1¼ 1¾ |
| 1024 | Leeds & St. Aubyn (tin, cop.) | £12 16 3 | 3¾ | 4¼ 4¾ |
| 1024 | Lelant Consols (tin) | 2 | 1¾ | 1 1¼ |
| 4474 | Lambest Consols (silver-lead) | 1s. | ¾ | 6s. 6d. |
| 12000 | Llandudno (copper) | 1¾ | ¾ | ¾ 1 |
| 4096 | Mainstone (lead), Salop | 1¾ | ¾ | |
| 12000 | Maria Consols (silver-lead) | 1 | 1 | |
| 1024 | Mill Pool (tin, cop.), St. Hilary | £13 16 6 | 2¼ | 2¾ 2¼ |
| 7500 | Mixon Great Con. (cop.), Leek | £1 19 2 | 1 | |
| 16000 | Mold (lead), Limited | ⅛ | ⅛ | |
| 10000 | Molland (cop.), South Moulton | £1 4 | ⅛ | ⅛ ⅜ |
| 4157 | Mount's Bay Consols, Marazion | 4¼ | ⅛ | ⅛ |
| 128 | Mulberry Hill (tin), Lanivet | 2 | — | 3¾ |
| 64 | Nant-ar-Nelle, Llandovery | 31 | 20 | ⅞ |
| 1500 | Nant-y-Car (cop.), nr. Rhyader | £4 7 | 6 | 6¾ 6¾ |
| 320 | Nent Force, Alston | 1 | 1¼ | |
| 6400 | New Crow Hill (lead) | 1¾ | 1¼ | 1¼ 2 |
| 2400 | New Machno Slate and Slab Co. | 10 | 9 | |
| 8000 | New Treleigh Consols, Redruth | ½ | ⅛ | ⅛ |
| 4000 | New Wh. Vor and E. Wh. Metal | 1¼ | 1¼ | ⅜ |
| 1024 | North Buller (cop.), Redruth | £12 13 6 | 5½ | 5½ 6 |
| 2000 | North Downs (cop.), Redruth | 5¼ | 1¾ | 1¾ 1¾ |
| 256 | North Fowey (copper) | 4 | ⅛ | ⅛ |
| 2500 | North Frances (cop.) [S.E.] | 7 | 12½ | 10 12 |
| 1366 | North Grambler, Redruth | 1¼ | 1 | 1¼ |
| 120 | North Laxey (lead) | 50 | 55 | 55 |
| 2000 | North Levant (tin, cop.), St. Just | 6¼ | 3¾ | 3¾ 3¾ |
| 512 | North Penhaldarva | 1¾ | 5 | 5 |
| 1024 | North Rosewarne, Gwinear | ⅛ | ⅛ | ⅛ |
| 3896 | North Tavy (copper) | ¼ | ⅛ | 1 |
| 1024 | North Wheal Busy | £8 0 8 | 2½ | 2 2 3 |
| 1128 | North Wheal Crofty [S.E.] | £7 18 4 | 5¼ | 5 |
| 1024 | No. Wh. Gilbert (cop.), St. Erth | £1 19 | 2 | |
| 6144 | N. Wh. Robert, Sampford Spiney | 2¼ | 3¾ | 3¾ 3¾ |
| 4240 | North Wheal Trelawny | 2¾ | ⅛ | ⅛ ⅛ |
| 2400 | N. Wh. Unity (cop., tin), Gwin. | 1¼ | 1 | |
| 4096 | N. Wheal Wrey Consols, St. Ive | 11s. 6d. | 1¼ | 1¼ 1¾ |
| 6000 | North Wrey and Julia | 8s. | ⅛ | ⅛ ⅛ |
| 4096 | Okel Tor (lead), Calstock | £8 18 | 3 | |
| 1000 | Old Tincroft (tin), Lelant | ¼ | 1¼ | 1¼ |
| 600 | Old Tolgus United (cop.), Redr. | 50 | 54 | 53 55 |
| 5538 | Old Trewether Consols | £1 5 6 | — | |
| 256 | Old Wheal Basset, Illogan | 10¾ | 2 | |
| 10000 | Pedn-an-drea United (tin) | £2 15 6 | 1 | 1 1¼ |
| 36820 | Pembroke & East Crinnis (cop.) | £1 6 6 | ⅛ | ⅛ |
| 5000 | Pencorse Consols, St. Enoder | 2¾ | 1¾ | 1¾ |
| 4945 | Pendeen Consols, St. Just | 1¾ | 2¾ | 2½ 2¾ |
| 512 | Penhaldarva | 4¼ | 25 | 50 55 |
| 4096 | Penharget and Wheal Wrey | 1 | — | ⅛ 1 |
| 4228 | Penquean, St. Breock | 1 | ⅛ | |
| 1200 | Penstruthal (copper) | £13 9 8 | 12 | 12 |
| 100 | Pentre Lygan | 20 | 22 | |
| 1160 | Perran St. George (copper, tin) | 21¼ | 10 | 8 10 |
| 512 | Polbreen | 4 | 4¾ | 4¾ |
| 2048 | Ponterwyd (lead), Cardigan | £2 16 6 | 1 | |
| 2400 | Porkellis United (tin) [S.E.] | 9 | 5 | 4¾ 5 |
| 560 | Pwll-y-Wheel (lead), Mold | £7 12 | 12 | 12 |